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CEIMIC
CORPORATION
"Analytical Chemistry for Environmental Management"

March 6, 1992

Ms. Jill Hartnell
Halliburton NUS Environ Corp.
999 West Valley Road
Wayne, PA 19087

Dear Ms. Hartnell:

Enclosed is a copy of the data package for the analysis of 11 soil and 2 aqueous samples which were received at CEIMIC on February 1, 1992 under the Project# 3916, SDG# E-S-01.

Should you have any questions regarding the enclosed data, please don't hesitate to call me.

Sincerely,

Miguel Muzzio
Oragnic Lab Director

Enclosure

10 Dean Knauss Drive, Narragansett, R.I. 02882 • (401) 782-8900 • FAX (401) 782-8905

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PROJECT NARRATIVE

PROJECT NARRATIVE

The enclosed data package is in response to the Project #3916 (SDG# E-S-01). Under this SDG, there are 13 VOA analyses for 11 soil, and 2 aqueous samples which were received at CEIMIC on February 1, 1992. The analyses were performed according to EPA Method 624 with the following modifications. The surrogate analytes and Internal Standards used are according to the CLP SOW/90. The BFB tune time was 12 hours and not 24 hours. The compounds reported are the Target Compound List (TCL). A 5 levels initital calibration according to the CLP SOW/90 was used. The continuing calibrations follow the CLP SOW guidelines with some deviations.

This data package included the analysis of samples for SDG E-S-01:

CLIENT ID	ANALYSIS
E-S-01	VOA
E-S-02	VOA
E-S-03	VOA
E-S-04	VOA
E-S-05	VOA
E-S-06	VOA
E-S-07	VOA
E-S-07-D	VOA
E-S-08	VOA
E-S-09	VOA
E-S-12	VOA
E-FB-01	VOA
E-RB-01	VOA

The submitted data covers the analysis of the volatile (VOA) fractions and their associated blanks and QA/QC. CEIMIC would like to highlight the following points pertaining to the analyses performed for this case:

(1) INSTRUMENTATION AND COLUMN IDENTIFICATION

The following instruments are used for the analyses:

GC/MS ANALYSIS

A. VOA

MS2: HP 5970B GC/MS using 30 m x 0.53 mm ID DB-624 megabore column
MS3: HP 5970B GC/MS using 30 m x 0.53 mm ID DB-624 megabore column
MS7: HP 5970B GC/MS using 6' x 2 mm ID SP-1000 glass packed column

(2) SAMPLE INFORMATION

Additional qualifier: "x"

An "x" qualifier is flagged by Formaster software whenever the data is manually edited.

A. VOA Fraction

The VOA reconstructed ion chromatograms are labelled as:

IS1	Bromochloromethane	IS
IS2	1,4-Difluorobenzene	IS
IS3	Chlorobenzene-d5	IS
SS1	Toluene-d8	SMC
SS2	Bromofluorobenzene	SMC
SS3	1,2-Dichloroethane-d4	SMC

IS Internal Standard
SMC System Monitoring Compound

For the Continuing Calibration Check on 2/03/92, File BC238 there are three compounds with high % D.

For the Continuing Calibration Check on 2/05/92, File C9267, there are seven compounds with high % D.

The Sample E-S-01 (Ceimic ID# 920045-01) was ran 22 minutes out of the 12 hour BFB tune shift but within the 24 hour EPA 624 tune shift.

DEVIATIONS FROM THE SOW

None other than specified above.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Miguel Muzzio
Organic Lab Director

March 6, 1992

TOTAL LEAD NARRATIVE

SDG: E-S-01
Ceimic Lab ID: 920045

The following samples were received at Ceimic on 1 February 92: E-S-01, E-S-02, E-S-03, E-S-04, E-S-05, E-S-06, E-S-07, E-S-07D, E-S-08, E-S-09, E-S-12, E-FB-01, and E-RB-01.

The above samples were analyzed for total lead and cyanide in accordance with SOW ILMO2.0.

Comments on Data Package:

QA/QC Samples:
EPA-LV ICV-4 (1290) was used for the ICV, CCV, and LCSW samples for the furnace analysis of lead. ICF LCS (0287) was used as the LCSS.

Observations:
None.

Deviation from SOW:
None.

End of case narrative.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Releases of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Phyllis Shiller
Phyllis Shiller
Inorganic Laboratory
Manager

3/6/92
Date

TPH NARRATIVE

Client: Halliburton NUS Environmental Corporation

Case: 3916

Total Petroleum Hydrocarbons:

The following samples, E-S-01, E-S-02, E-S-03, E-S-04, E-S-05, E-S-06, E-S-07, E-S-07D, E-S-08, E-S-09, E-S-12, E-FB-01 and E-RB-01, were analyzed for Total Petroleum Hydrocarbons (TPH) in accordance with EPA method 418.1.

No unusual observations were noted.

Henry Leibovitz
GC Laboratory
Manager

3/6/92

Date

LABORATORY CERTIFICATION

STATE OF NEW JERSEY

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Let's protect our earth

Certifies That

Ceimic Corporation
100 Dean Knauss Drive
Narragansett, RI 02882

having duly met the requirements of the

Regulations Governing Laboratory Certification
And Standards Of Performance N.J.A.C. 7:18 et. seq.

is hereby approved as a

State Certified Water Laboratory

To perform the analyses as indicated on the Annual Certified Parameter List
which must accompany this certificate to be valid

#78817
PERMANENT CERTIFICATION NUMBER

February 27, 1991
DATE

COMMISSIONER
DEPARTMENT OF ENVIRONMENTAL PROTECTION

This c rtification is subj ct t unann unc d lab rat ry insp cti ns as sp cifi d by
N.J.A.C. 7:18-2.11(d) and agr d t by th Laborat ry Manager on filing th applicati n

TO BE CONSPICUOUSLY DISPLAYED AT THE LABORATORY WITH THE ANNUAL CERTIFIED PARAMETER LIST.

CHAIN-OF-CUSTODY

#1

HALLIBURTON NUS Environmental Corporation and Subsidiaries

CHAIN OF CUSTODY RECORD

PROJECT NO.: 3916

SITE NAME: NUS Earle

SAMPLERS (SIGNATURE): [illegible] [illegible]

STATION NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA + 15-xyl	TPH/Lead					REMARKS
001	1-31-92	1227		X	E-S-01	4	3	1					
002		1244		X	E-S-02	4	3	1					
003		1251		X	E-S-03	4	3	1					
004		1255		X	E-S-04	4	3	1					
005		1300		X	E-S-05	4	3	1					
006		1320		X	E-S-06	4	3	1					
007		1330		X	E-S-07	4	3	1					
008		1345		X	E-S-08	4	3	1					
009		1355		X	E-S-09	4	3	1					
010		1410		X	E-S-12	4	3	1					
011		1500		X	E-RB-01	4	3	1					Rinsate Blank
012		1505		X	E-FB-01	4	3	1					Field Blank
013		1510		X	E-TB-01	3 ~~4~~ 1-31-92	3	X	RP 1-31-92				Trip Blank
014		1330		X	E-S-07-D	4	3	1					

RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):
[illegible]	1-31-92 1700				
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED FOR LABORATORY BY (SIGNATURE):	DATE / TIME:	REMARKS: Shipped via Federal Express Airbill No 3742089853	
		[illegible]	2/1/92		

NUS 440 REVISED 0891

ORGANIC SUMMARY PACKAGE

2. TCL AND TIC

(1) VOA

~~(2) SV~~

~~(3) PEST~~

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-FB-01

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) WATER Lab Sample ID: 920045-12

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: G1550

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. ____ Date Analyzed: 02/04/92

GC Column: SP-1000 ID: 2.50 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	BJ
67-64-1	Acetone	14	
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-FB-01

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) WATER Lab Sample ID: 920045-12

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: G1550

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. ____ Date Analyzed: 02/04/92

GC Column: SP-1000 ID: 2.50 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-RB-01

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) WATER Lab Sample ID: 920045-13

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: G1551

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. ____ Date Analyzed: 02/04/92

GC Column: SP-1000 ID: 2.50 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	4	BJ
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-RB-01

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) WATER Lab Sample ID: 920045-13

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: G1551

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. ____ Date Analyzed: 02/04/92

GC Column: SP-1000 ID: 2.50 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-S-01

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-01

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C9259

Level: (low/med) MED Date Received: 02/01/92

% Moisture: not dec. 12 Date Analyzed: 02/05/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1400	U
74-83-9	Bromomethane	1400	U
75-01-4	Vinyl Chloride	1400	U
75-00-3	Chloroethane	1400	U
75-09-2	Methylene Chloride	560	J
67-64-1	Acetone	1400	U
75-15-0	Carbon Disulfide	1400	U
75-35-4	1,1-Dichloroethene	1400	U
75-34-3	1,1-Dichloroethane	1400	U
540-59-0	1,2-Dichloroethene (total)	1400	U
67-66-3	Chloroform	1400	U
107-06-2	1,2-Dichloroethane	1400	U
78-93-3	2-Butanone	1400	U
71-55-6	1,1,1-Trichloroethane	1200	J
56-23-5	Carbon Tetrachloride	1400	U
75-27-4	Bromodichloromethane	1400	U
78-87-5	1,2-Dichloropropane	1400	U
10061-01-5	cis-1,3-Dichloropropene	1400	U
79-01-6	Trichloroethene	220	J
124-48-1	Dibromochloromethane	1400	U
79-00-5	1,1,2-Trichloroethane	1400	U
71-43-2	Benzene	1400	U
10061-02-6	trans-1,3-Dichloropropene	1400	U
75-25-2	Bromoform	1400	U
108-10-1	4-Methyl-2-Pentanone	1400	U
591-78-6	2-Hexanone	1400	U
127-18-4	Tetrachloroethene	310	J
79-34-5	1,1,2,2-Tetrachloroethane	1400	U
108-88-3	Toluene	2600	
108-90-7	Chlorobenzene	1400	U
100-41-4	Ethylbenzene	4500	
100-42-5	Styrene	1400	U
1330-20-7	Xylene (total)	33000	E

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-01

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-01

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C9259

Level: (low/med) MED Date Received: 02/01/92

% Moisture: not dec. 12 Date Analyzed: 02/05/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 15

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	C7H14 isomer	12.81	9500	J
2. 000000	Aliphatic hydrocarbon	14.43	8100	J
3. 000000	Aliphatic hydrocarbon	14.71	7000	J
4. 000000	Aliphatic hydrocarbon	15.59	16000	J
5. 000000	Trimethylcyclohexane isomer	16.80	28000	J
6. 000000	Trimethylcyclohexane isomer	17.27	7700	J
7. 000000	C9H20 isomer	17.90	3400	J
8. 000000	Aliphatic hydrocarbon	18.76	9100	J
9. 000000	Unknown	19.44	3600	J
10. 000000	Unknown	19.74	12000	J
11. 000000	Unknown	20.56	12000	J
12. 000000	C3-benzene isomer	20.87	5300	J
13. 000000	C3-benzene isomer	21.13	20000	J
14. 000000	C3-benzene isomer	21.32	18000	J
15. 000000	Unknown	21.68	22000	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-S-02

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-02

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C9269

Level: (low/med) MED Date Received: 02/01/92

% Moisture: not dec. 12 Date Analyzed: 02/05/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1400	U
74-83-9	Bromomethane	1400	U
75-01-4	Vinyl Chloride	1400	U
75-00-3	Chloroethane	1400	U
75-09-2	Methylene Chloride	390	J
67-64-1	Acetone	1400	U
75-15-0	Carbon Disulfide	1400	U
75-35-4	1,1-Dichloroethene	1400	U
75-34-3	1,1-Dichloroethane	1400	U
540-59-0	1,2-Dichloroethene (total)	1400	U
67-66-3	Chloroform	1400	U
107-06-2	1,2-Dichloroethane	1400	U
78-93-3	2-Butanone	1400	U
71-55-6	1,1,1-Trichloroethane	7600	
56-23-5	Carbon Tetrachloride	1400	U
75-27-4	Bromodichloromethane	1400	U
78-87-5	1,2-Dichloropropane	1400	U
10061-01-5	cis-1,3-Dichloropropene	1400	U
79-01-6	Trichloroethene	180	J
124-48-1	Dibromochloromethane	1400	U
79-00-5	1,1,2-Trichloroethane	1400	U
71-43-2	Benzene	1500	
10061-02-6	trans-1,3-Dichloropropene	1400	U
75-25-2	Bromoform	1400	U
108-10-1	4-Methyl-2-Pentanone	64000	E
591-78-6	2-Hexanone	1400	U
127-18-4	Tetrachloroethene	140	J
79-34-5	1,1,2,2-Tetrachloroethane	1400	U
108-88-3	Toluene	11000	
108-90-7	Chlorobenzene	1400	U
100-41-4	Ethylbenzene	8700	
100-42-5	Styrene	1400	U
1330-20-7	Xylene (total)	69000	E

15

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-02

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-02

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C9269

Level: (low/med) MED Date Received: 02/01/92

% Moisture: not dec. 12 Date Analyzed: 02/05/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 15

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	Unknown	9.11	5300	J
2. 000000	Unknown	12.78	23000	J
3. 000000	Aliphatic hydrocarbon	14.40	9800	J
4. 000000	Aliphatic hydrocarbon	15.56	29000	J
5. 000000	Unknown	16.69	12000	J
6. 000000	Trimethylcyclohexane isomer	17.24	13000	J
7. 000000	Aliphatic hydrocarbon	18.75	12000	J
8. 000000	C9H18 isomer	19.00	5000	J
9. 000000	Unknown	19.41	6800	J
10. 000000	C9H18 isomer	19.71	15000	J
11. 000000	Unknown	20.53	16000	J
12. 000000	C3-benzene isomer	20.86	7200	J
13. 000000	C3-benzene isomer	21.10	31000	J
14. 000000	C3-benzene isomer	21.30	27000	J
15. 000000	C3-benzene isomer	21.65	26000	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-S-03

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-03

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC240

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 13 Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	6	J
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	9	J
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	10	J
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	17	
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	94	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-03

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-03

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC240

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 13 Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	Unknown	19.21	40	J
2. 000000	C3-benzene isomer	20.17	76	J
3. 000000	C3-benzene isomer	20.60	49	J
4. 000000	Aliphatic hydrocarbon	20.74	46	J
5. 000000	C3-benzene isomer	20.86	94	J
6. 000000	Unknown	21.09	36	J
7. 000000	Unknown	21.21	45	J
8. 000000	Unknown	21.49	63	J
9. 000000	Unknown	21.62	48	J
10. 000000	C4-benzene isomer	21.82	63	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-S-04

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-04

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C9270

Level: (low/med) MED Date Received: 02/01/92

% Moisture: not dec. 12 Date Analyzed: 02/05/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1400	U
74-83-9	Bromomethane	1400	U
75-01-4	Vinyl Chloride	1400	U
75-00-3	Chloroethane	1400	U
75-09-2	Methylene Chloride	1800	
67-64-1	Acetone	1400	U
75-15-0	Carbon Disulfide	1400	U
75-35-4	1,1-Dichloroethene	1400	U
75-34-3	1,1-Dichloroethane	1400	U
540-59-0	1,2-Dichloroethene (total)	1400	U
67-66-3	Chloroform	1400	U
107-06-2	1,2-Dichloroethane	1400	U
78-93-3	2-Butanone	1400	U
71-55-6	1,1,1-Trichloroethane	7200	
56-23-5	Carbon Tetrachloride	1400	U
75-27-4	Bromodichloromethane	1400	U
78-87-5	1,2-Dichloropropane	1400	U
10061-01-5	cis-1,3-Dichloropropene	1400	U
79-01-6	Trichloroethene	180	J
124-48-1	Dibromochloromethane	1400	U
79-00-5	1,1,2-Trichloroethane	1400	U
71-43-2	Benzene	1400	U
10061-02-6	trans-1,3-Dichloropropene	1400	U
75-25-2	Bromoform	1400	U
108-10-1	4-Methyl-2-Pentanone	1400	U
591-78-6	2-Hexanone	1400	U
127-18-4	Tetrachloroethene	1400	U
79-34-5	1,1,2,2-Tetrachloroethane	1400	U
108-88-3	Toluene	1400	U
108-90-7	Chlorobenzene	1400	U
100-41-4	Ethylbenzene	2800	
100-42-5	Styrene	1400	U
1330-20-7	Xylene (total)	4700	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-04

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-04

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C9270

Level: (low/med) MED Date Received: 02/01/92

% Moisture: not dec. 12 Date Analyzed: 02/05/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 15

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	Unknown	11.51	5300	J
2. 000000	C7H14 isomer	12.80	4000	J
3. 000000	Aliphatic hydrocarbon	14.40	3600	J
4. 000000	Aliphatic hydrocarbon	15.56	7100	J
5. 000000	Trimethylcyclohexane isomer	16.77	14000	J
6. 000000	Trimethylcyclohexane isomer	17.26	3800	J
7. 000000	Aliphatic hydrocarbon	18.75	4500	J
8. 000000	C9H18 isomer	19.00	4300	J
9. 000000	Unknown	19.41	5800	J
10. 000000	Unknown	19.72	11000	J
11. 000000	Unknown	20.00	3100	J
12. 000000	Unknown	20.55	11000	J
13. 000000	C3-benzene isomer	20.86	5000	J
14. 000000	Unknown	21.29	13000	J
15. 000000	Unknown	21.64	6800	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-S-05

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-05

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC249

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 9 Date Analyzed: 02/04/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 5.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	55	U
74-83-9	Bromomethane	55	U
75-01-4	Vinyl Chloride	55	U
75-00-3	Chloroethane	55	U
75-09-2	Methylene Chloride	55	U
67-64-1	Acetone	55	U
75-15-0	Carbon Disulfide	55	U
75-35-4	1,1-Dichloroethene	55	U
75-34-3	1,1-Dichloroethane	55	U
540-59-0	1,2-Dichloroethene (total)	55	U
67-66-3	Chloroform	55	U
107-06-2	1,2-Dichloroethane	55	U
78-93-3	2-Butanone	55	U
71-55-6	1,1,1-Trichloroethane	55	U
56-23-5	Carbon Tetrachloride	55	U
75-27-4	Bromodichloromethane	55	U
78-87-5	1,2-Dichloropropane	55	U
10061-01-5	cis-1,3-Dichloropropene	55	U
79-01-6	Trichloroethene	55	U
124-48-1	Dibromochloromethane	55	U
79-00-5	1,1,2-Trichloroethane	55	U
71-43-2	Benzene	55	U
10061-02-6	trans-1,3-Dichloropropene	55	U
75-25-2	Bromoform	55	U
108-10-1	4-Methyl-2-Pentanone	55	U
591-78-6	2-Hexanone	55	U
127-18-4	Tetrachloroethene	55	U
79-34-5	1,1,2,2-Tetrachloroethane	55	U
108-88-3	Toluene	55	U
108-90-7	Chlorobenzene	55	U
100-41-4	Ethylbenzene	55	U
100-42-5	Styrene	55	U
1330-20-7	Xylene (total)	55	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-05

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-05

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC249

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 9 Date Analyzed: 02/04/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 5.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	Unknown	7.72	180	J
2. 000000	Unknown	19.88	82	J
3. 000000	Unknown	20.29	140	J
4. 000000	Aliphatic hydrocarbon	20.72	130	J
5. 000000	Unknown	20.84	88	J
6. 000000	Unknown	21.62	130	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-S-06

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-06

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C9272

Level: (low/med) MED Date Received: 02/01/92

% Moisture: not dec. 14 Date Analyzed: 02/06/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 200 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	730	U
74-83-9	Bromomethane	730	U
75-01-4	Vinyl Chloride	730	U
75-00-3	Chloroethane	730	U
75-09-2	Methylene Chloride	530	J
67-64-1	Acetone	730	U
75-15-0	Carbon Disulfide	730	U
75-35-4	1,1-Dichloroethene	730	U
75-34-3	1,1-Dichloroethane	730	U
540-59-0	1,2-Dichloroethene (total)	730	U
67-66-3	Chloroform	730	U
107-06-2	1,2-Dichloroethane	730	U
78-93-3	2-Butanone	730	U
71-55-6	1,1,1-Trichloroethane	490	J
56-23-5	Carbon Tetrachloride	730	U
75-27-4	Bromodichloromethane	730	U
78-87-5	1,2-Dichloropropane	730	U
10061-01-5	cis-1,3-Dichloropropene	730	U
79-01-6	Trichloroethene	730	U
124-48-1	Dibromochloromethane	730	U
79-00-5	1,1,2-Trichloroethane	730	U
71-43-2	Benzene	730	U
10061-02-6	trans-1,3-Dichloropropene	730	U
75-25-2	Bromoform	730	U
108-10-1	4-Methyl-2-Pentanone	730	U
591-78-6	2-Hexanone	730	U
127-18-4	Tetrachloroethene	730	U
79-34-5	1,1,2,2-Tetrachloroethane	730	U
108-88-3	Toluene	120	J
108-90-7	Chlorobenzene	730	U
100-41-4	Ethylbenzene	730	U
100-42-5	Styrene	730	U
1330-20-7	Xylene (total)	120	J

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-06

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-06

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C9272

Level: (low/med) MED Date Received: 02/01/92

% Moisture: not dec. 14 Date Analyzed: 02/06/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 200 (uL)

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	Unknown	6.63	3700	J
2. 000000	Unknown	20.00	1000	J
3. 000000	Unknown	20.53	3300	J
4. 000000	Unknown	21.06	1100	J
5. 000000	Unknown	21.29	1700	J
6. 000000	Unknown	21.64	1400	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-S-07

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-07

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC241

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 4 Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	J
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	3	J
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	6	J
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	5	J
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	3	J
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	5	J
108-88-3	Toluene	5	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	4	J
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	13	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-07

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-07

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC241

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 4 Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	C3-benzene isomer	20.17	13	J
2. 000000	Unknown	20.29	22	J
3. 000000	C3-benzene isomer	20.86	16	J
4. 000000	Unknown	21.72	27	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-S-07D

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-08

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC242

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 5 Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	4	J
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	34	

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-07D

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-08

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC242

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 5 Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	C3-benzene isomer	20.28	25	J
2. 000000	C3-benzene isomer	20.60	15	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-S-08

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-09

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC243

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 14 Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	12	U
67-64-1	Acetone	72	
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-08

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-09

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC243

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 14 Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	Unknown	7.81	7	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-S-09

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-10

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC244

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 13 Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	9	J

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-09

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-10

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC244

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 13 Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	Unknown	7.82	25	J
2. 000000	C3-benzene isomer	20.29	56	J
3. 000000	C3-benzene isomer	20.60	21	J
4. 000000	C3-benzene isomer	20.85	11	J
5. 000000	C3-benzene isomer	21.50	60	J
6. 000000	C3-benzene isomer	21.93	62	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-S-12

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-11

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C9271

Level: (low/med) MED Date Received: 02/01/92

% Moisture: not dec. 5 Date Analyzed: 02/06/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 25.0(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	5300	U
74-83-9	Bromomethane	5300	U
75-01-4	Vinyl Chloride	5300	U
75-00-3	Chloroethane	5300	U
75-09-2	Methylene Chloride	2500	J
67-64-1	Acetone	5300	U
75-15-0	Carbon Disulfide	5300	U
75-35-4	1,1-Dichloroethene	5300	U
75-34-3	1,1-Dichloroethane	5300	U
540-59-0	1,2-Dichloroethene (total)	5300	U
67-66-3	Chloroform	5300	U
107-06-2	1,2-Dichloroethane	5300	U
78-93-3	2-Butanone	5300	U
71-55-6	1,1,1-Trichloroethane	14000	
56-23-5	Carbon Tetrachloride	5300	U
75-27-4	Bromodichloromethane	5300	U
78-87-5	1,2-Dichloropropane	5300	U
10061-01-5	cis-1,3-Dichloropropene	5300	U
79-01-6	Trichloroethene	5300	U
124-48-1	Dibromochloromethane	5300	U
79-00-5	1,1,2-Trichloroethane	5300	U
71-43-2	Benzene	5300	U
10061-02-6	trans-1,3-Dichloropropene	5300	U
75-25-2	Bromoform	5300	U
108-10-1	4-Methyl-2-Pentanone	5300	U
591-78-6	2-Hexanone	5300	U
127-18-4	Tetrachloroethene	5300	U
79-34-5	1,1,2,2-Tetrachloroethane	5300	U
108-88-3	Toluene	960	J
108-90-7	Chlorobenzene	5300	U
100-41-4	Ethylbenzene	5300	U
100-42-5	Styrene	5300	U
1330-20-7	Xylene (total)	150000	E

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-12

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-11

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C9271

Level: (low/med) MED Date Received: 02/01/92

% Moisture: not dec. 5 Date Analyzed: 02/06/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 25.0(uL)

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	Unknown	15.96	5300	J
2. 000000	Unknown	16.74	7400	J
3. 000000	Unknown	17.87	6300	J
4. 000000	Unknown	18.74	5800	J
5. 000000	Unknown	19.97	3700	J
6. 000000	Unknown	20.62	22000	J
7. 000000	Aliphatic hydrocarbon	20.85	9500	J
8. 000000	C3-benzene isomer	21.11	140000	J
9. 000000	C3-benzene isomer	21.30	81000	J
10. 000000	Unknown	21.65	55000	J

3. SURROGATE SPIKE ANALYSIS RESULTS

(1) VOA
~~(2) SV~~
~~(3) PEST~~

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

	EPA SAMPLE NO.	SMC1 (TOL)#	SMC2 (BFB)#	SMC3 (DCE)#	OTHER	TOT OUT
01	E-FB-01	97	102	99	0	0
02	E-RB-01	101	103	99	0	0
03	VBLK04	100	100	100	0	0
04	VBLK03	102	102	90	0	0
05	VBLK02	100	102	99	0	0

		QC LIMITS
SMC1 (TOL)	= Toluene-d8	(88-110)
SMC2 (BFB)	= Bromofluorobenzene	(86-115)
SMC3 (DCE)	= 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

2B

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Level:(low/med) LOW

	EPA SAMPLE NO.	SMC1 (TOL)#	SMC2 (BFB)#	SMC3 (DCE)#	OTHER	TOT OUT
01	E-S-03	97	95	105	0	0
02	E-S-05	100	105	102	0	0
03	E-S-07	94	100	98	0	0
04	E-S-07D	106	110	99	0	0
05	E-S-08	95	103	96	0	0
06	E-S-09	94	106	99	0	0
07	VBLK01	97	101	101	0	0

		QC LIMITS
SMC1 (TOL)	= Toluene-d8	(84-138)
SMC2 (BFB)	= Bromofluorobenzene	(59-113)
SMC3 (DCE)	= 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

2B

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Level:(low/med) MED

	EPA SAMPLE NO.	SMC1 (TOL)#	SMC2 (BFB)#	SMC3 (DCE)#	OTHER	TOT OUT
01	E-S-01	105	83	80	0	0
02	E-S-02	111	79	109	0	0
03	E-S-04	93	86	102	0	0
04	E-S-06	97	92	107	0	0
05	E-S-12	95	97	103	0	0

		QC LIMITS
SMC1 (TOL)	= Toluene-d8	(84-138)
SMC2 (BFB)	= Bromofluorobenzene	(59-113)
SMC3 (DCE)	= 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

Left

Blank

Intentionally

5. BLANK DATA

(1) VOA
~~(2) SV~~
~~(3) PEST~~

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK01

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID: BC239 Lab Sample ID: V20203-B1

Date Analyzed: 02/03/92 Time Analyzed: 1801

GC Column: DB-624 ID: 0.530(mm) Heated Purge: (Y/N) N

Instrument ID: MS2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	E-S-03	920045-03	BC240	1852
02	E-S-05	920045-05	BC249	0241
03	E-S-07	920045-07	BC241	1928
04	E-S-07D	920045-08	BC242	2004
05	E-S-08	920045-09	BC243	2040
06	E-S-09	920045-10	BC244	2116

COMMENTS:

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK01

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: V20203-B1

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC239

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK01

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: V20203-B1

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC239

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK04

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID: G1549 Lab Sample ID: V70204-B1

Date Analyzed: 02/04/92 Time Analyzed: 1113

GC Column: SP-1000 ID: 2.50(mm) Heated Purge: (Y/N) N

Instrument ID: MS7

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	E-FB-01	920045-12	G1550	1233
02	E-RB-01	920045-13	G1551	1315

COMMENTS:

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK04

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) WATER Lab Sample ID: V70204-B1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: G1549

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/04/92

GC Column: SP-1000 ID: 2.50 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	3	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK04

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) WATER Lab Sample ID: V70204-B1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: G1549

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 02/04/92

GC Column: SP-1000 ID: 2.50 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK03

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID: C9249 Lab Sample ID: V30204-B1

Date Analyzed: 02/04/92 Time Analyzed: 1328

GC Column: DB-624 ID: 0.530(mm) Heated Purge: (Y/N) N

Instrument ID: MS3

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	E-S-01	920045-01	C9259	0019

COMMENTS:

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK03

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) WATER Lab Sample ID: V30204-B1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9249

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/04/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK03

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) WATER Lab Sample ID: V30204-B1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9249

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 02/04/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK02

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID: C9268 Lab Sample ID: V30205-B1

Date Analyzed: 02/05/92 Time Analyzed: 2230

GC Column: DB-624 ID: 0.530(mm) Heated Purge: (Y/N) N

Instrument ID: MS3

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	E-S-02	920045-02	C9269	2309
02	E-S-04	920045-04	C9270	2344
03	E-S-06	920045-06	C9272	0104
04	E-S-12	920045-11	C9271	0030

COMMENTS:

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK02

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) WATER Lab Sample ID: V30205-B1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9268

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 02/05/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK02

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) WATER Lab Sample ID: V30205-B1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9268

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/05/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

6. INTERNAL STANDARD AREA DATA

(1) VOA

~~(2) SV~~

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID (Standard): BC238 Date Analyzed: 02/03/92

Instrument ID: MS2 Time Analyzed: 1658

GC Column: DB-624 ID: 0.530(mm) Heated Purge: (Y/N) N

		IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	22718	11.00	90504	13.05	73404	17.82
	UPPER LIMIT	45436	11.50	181008	13.55	146808	18.32
	LOWER LIMIT	11359	10.50	45252	12.55	36702	17.32
	EPA SAMPLE NO.						
01	E-S-03	18681	11.00	81429	13.05	65748	17.84
02	E-S-05	17526	11.00	71676	13.05	56980	17.82
03	E-S-07	16916	11.02	69233	13.06	57066	17.84
04	E-S-07D	13010	10.98	54926	13.05	42728	17.84
05	E-S-08	20260	11.00	81696	13.05	66605	17.84
06	E-S-09	20893	11.00	85216	13.05	69074	17.84
07	VBLK01	20423	11.00	83684	13.07	67805	17.84

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID (Standard): C9248 Date Analyzed: 02/04/92

Instrument ID: MS3 Time Analyzed: 1240

GC Column: DB-624 ID: 0.530(mm) Heated Purge: (Y/N) N

		IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	20142	9.93	84730	12.14	72415	17.69
	UPPER LIMIT	40284	10.43	169460	12.64	144830	18.19
	LOWER LIMIT	10071	9.43	42365	11.64	36208	17.19
	EPA SAMPLE NO.						
01	E-S-01	30418	10.00	102660	12.19	95887	17.70
02	VBLK03	20962	9.91	90711	12.11	74858	17.67

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

SA

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID (Standard): C9267 Date Analyzed: 02/05/92

Instrument ID: MS3 Time Analyzed: 2145

GC Column: DB-624 ID: 0.530(mm) Heated Purge: (Y/N) N

		IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	27991	9.91	134131	12.12	103340	17.67
	UPPER LIMIT	55982	10.41	268262	12.62	206680	18.17
	LOWER LIMIT	13996	9.41	67066	11.62	51670	17.17
	EPA SAMPLE NO.						
01	E-S-02	26741	9.91	110065	12.12	96498	17.67
02	E-S-04	30387	9.97	120683	12.16	110633	17.69
03	E-S-06	31526	9.97	116782	12.16	109761	17.69
04	E-S-12	34070	9.94	128273	12.15	118370	17.68
05	VBLK02	28535	9.94	124454	12.17	98756	17.69

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID (Standard): G1548 Date Analyzed: 02/04/92

Instrument ID: MS7 Time Analyzed: 0952

GC Column: SF-1000 ID: 2.50(mm) Heated Purge: (Y/N) N

		IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	49583	9.20	202004	19.46	172321	24.39
	UPPER LIMIT	99166	9.70	404008	19.96	344642	24.89
	LOWER LIMIT	24792	8.70	101002	18.96	86160	23.89
	EPA SAMPLE NO.						
01	E-FB-01	51238	9.20	208212	19.50	180106	24.38
02	E-RB-01	51957	9.20	209035	19.50	176686	24.38
03	VBLK04	52920	9.22	213936	19.48	181169	24.40

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

VOLATILES

VOLATILES

a. QC summary

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

	EPA SAMPLE NO.	SMC1 (TOL)#	SMC2 (BFB)#	SMC3 (DCE)#	OTHER	TOT OUT
01	E-FB-01	97	102	99	0	0
02	E-RB-01	101	103	99	0	0
03	VBLK04	100	100	100	0	0
~~04~~	~~VBLK03~~	~~102~~	~~102~~	~~90~~	~~0~~	~~0~~
~~05~~	~~VBLK02~~	~~100~~	~~102~~	~~99~~	~~0~~	~~0~~

MM

3/05/92

		QC LIMITS
SMC1 (TOL)	= Toluene-d8	(88-110)
SMC2 (BFB)	= Bromofluorobenzene	(86-115)
SMC3 (DCE)	= 1,2-Dichloroethane-d4	(76-114)

MM

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

2B

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Level:(low/med) LOW

	EPA SAMPLE NO.	SMC1 (TOL)#	SMC2 (BFB)#	SMC3 (DCE)#	OTHER	TOT OUT
01	E-S-03	97	95	105	0	0
02	E-S-05	100	105	102	0	0
03	E-S-07	94	100	98	0	0
04	E-S-07D	106	110	99	0	0
05	E-S-08	95	103	96	0	0
06	E-S-09	94	106	99	0	0
07	VBLK01	97	101	101	0	0

		QC LIMITS
SMC1 (TOL)	= Toluene-d8	(84-138)
SMC2 (BFB)	= Bromofluorobenzene	(59-113)
SMC3 (DCE)	= 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

2B

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Level:(low/med) MED

	EPA SAMPLE NO.	SMC1 (TOL)#	SMC2 (BFB)#	SMC3 (DCE)#	OTHER	TOT OUT
01	E-S-01	105	83	80	0	0
02	E-S-02	111	79	109	0	0
03	E-S-04	93	86	102	0	0
04	E-S-06	97	92	107	0	0
05	E-S-12	95	97	103	0	0
	VBLK03	102	102	90	0	0
	VBLK02	100	102	99	0	0

		QC LIMITS
SMC1 (TOL)	= Toluene-d8	(84-138)
SMC2 (BFB)	= Bromofluorobenzene	(59-113)
SMC3 (DCE)	= 1,2-Dichloroethane-d4	(70-121)

3/05/92
MM

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK01

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID: BC239 Lab Sample ID: V20203-B1

Date Analyzed: 02/03/92 Time Analyzed: 1801

GC Column: DB-624 ID: 0.530(mm) Heated Purge: (Y/N) N

Instrument ID: MS2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	E-S-03	920045-03	BC240	1852
02	E-S-05	920045-05	BC249	0241
03	E-S-07	920045-07	BC241	1928
04	E-S-07D	920045-08	BC242	2004
05	E-S-08	920045-09	BC243	2040
06	E-S-09	920045-10	BC244	2116

COMMENTS:

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK04

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID: G1549 Lab Sample ID: V70204-B1

Date Analyzed: 02/04/92 Time Analyzed: 1113

GC Column: SP-1000 ID: 2.50(mm) Heated Purge: (Y/N) N

Instrument ID: MS7

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	E-FB-01	920045-12	G1550	1233
02	E-RB-01	920045-13	G1551	1315

COMMENTS:

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK03

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID: C9249 Lab Sample ID: V30204-B1

Date Analyzed: 02/04/92 Time Analyzed: 1328

GC Column: DB-624 ID: 0.530(mm) Heated Purge: (Y/N) N

Instrument ID: MS3

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	E-S-01	920045-01	C9259	0019

COMMENTS:

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK02

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID: C9268 Lab Sample ID: V30205-B1

Date Analyzed: 02/05/92 Time Analyzed: 2230

GC Column: DB-624 ID: 0.530(mm) Heated Purge: (Y/N) N

Instrument ID: MS3

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	E-S-02	920045-02	C9269	2309
02	E-S-04	920045-04	C9270	2344
03	E-S-06	920045-06	C9272	0104
04	E-S-12	920045-11	C9271	0030

COMMENTS:

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID: BC092 BFB Injection Date: 01/06/92

Instrument ID: MS2 BFB Injection Time: 0902

GC Column: DB-624 ID: 0.530(mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	22.3
75	30.0 - 66.0% of mass 95	53.3
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	77.1
175	4.0 - 9.0% of mass 174	5.5 (7.1)1
176	93.0 - 101.0% of mass 174	75.0 (97.3)1
177	5.0 - 9.0% of mass 176	4.9 (6.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD020	VSTD0106	BC094	01/06/92	1032
02	VSTD010	VSTD0106	BC095	01/06/92	1111
03	VSTD100	VSTD0106	BC096	01/06/92	1151
04	VSTD200	VSTD0106	BC097	01/06/92	1242
05	VSTD400	VSTD0106	BC098	01/06/92	1322
06	VSTD050	VSTD0106	BC099	01/06/92	1514

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID: BC237 BFB Injection Date: 02/03/92

Instrument ID: MS2 BFB Injection Time: 1629

GC Column: DB-624 ID: 0.530(mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	19.3
75	30.0 - 66.0% of mass 95	43.7
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	82.7
175	4.0 - 9.0% of mass 174	6.7 (8.1)1
176	93.0 - 101.0% of mass 174	77.9 (94.2)1
177	5.0 - 9.0% of mass 176	5.1 (6.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	VSTD0203	BC238	02/03/92	1658
02	VBLK01	V20203-B1	BC239	02/03/92	1801
03	E-S-03	920045-03	BC240	02/03/92	1852
04	E-S-07	920045-07	BC241	02/03/92	1928
05	E-S-07D	920045-08	BC242	02/03/92	2004
06	E-S-08	920045-09	BC243	02/03/92	2040
07	E-S-09	920045-10	BC244	02/03/92	2116
08	E-S-05	920045-05	BC249	02/04/92	0241

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID: C9223 BFB Injection Date: 02/01/92

Instrument ID: MS3 BFB Injection Time: 0915

GC Column: DB-624 ID: 0.530(mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	23.9
75	30.0 - 66.0% of mass 95	54.6
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	92.2
175	4.0 - 9.0% of mass 174	7.2 (7.8)1
176	93.0 - 101.0% of mass 174	88.6 (96.1)1
177	5.0 - 9.0% of mass 176	5.7 (6.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	VSTD0201	C9224	02/01/92	0944
02	VSTD020	VSTD0201	C9226	02/01/92	1105
03	VSTD100	VSTD0201	C9227	02/01/92	1141
04	VSTD200	VSTD0201	C9228	02/01/92	1222
05	VSTD010	VSTD0201	C9232	02/01/92	1817

073

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID: C9247 BFB Injection Date: 02/04/92

Instrument ID: MS3 BFB Injection Time: 1157

GC Column: DB-624 ID: 0.530(mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	22.3
75	30.0 - 66.0% of mass 95	55.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	87.8
175	4.0 - 9.0% of mass 174	7.1 (8.1)1
176	93.0 - 101.0% of mass 174	85.9 (97.8)1
177	5.0 - 9.0% of mass 176	5.7 (6.6)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	VSTD0204	C9248	02/04/92	1240
02	VBLK03	V30204-B1	C9249	02/04/92	1328
03	E-S-01	920045-01	C9259	02/05/92	0019

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID: C9263 BFB Injection Date: 02/05/92

Instrument ID: MS3 BFB Injection Time: 1534

GC Column: DB-624 ID: 0.530(mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	17.8
75	30.0 - 66.0% of mass 95	44.6
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.1
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	99.2
175	4.0 - 9.0% of mass 174	7.6 (7.7)1
176	93.0 - 101.0% of mass 174	97.8 (98.6)1
177	5.0 - 9.0% of mass 176	6.7 (6.8)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	VSTD0205	C9267	02/05/92	2145
02	VBLK02	V30205-B1	C9268	02/05/92	2230
03	E-S-02	920045-02	C9269	02/05/92	2309
04	E-S-04	920045-04	C9270	02/05/92	2344
05	E-S-12	920045-11	C9271	02/06/92	0030
06	E-S-06	920045-06	C9272	02/06/92	0104

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID: G1405 BFB Injection Date: 01/11/92

Instrument ID: MS7 BFB Injection Time: 1043

GC Column: SP-1000 ID: 2.50(mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	21.3
75	30.0 - 66.0% of mass 95	58.8
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	91.9
175	4.0 - 9.0% of mass 174	6.4 (7.0)1
176	93.0 - 101.0% of mass 174	91.9 (100.0)1
177	5.0 - 9.0% of mass 176	7.2 (7.8)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	VSTD0111	G1406	01/11/92	1121
02	VSTD020	VSTD0111	G1408	01/11/92	1242
03	VSTD200	VSTD0111	G1410	01/11/92	1403
04	VSTD100	VSTD0111	G1412	01/11/92	1553
05	VSTD010	VSTD0111	G1413	01/11/92	1642

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID: G1547 BFB Injection Date: 02/04/92

Instrument ID: MS7 BFB Injection Time: 0911

GC Column: SP-1000 ID: 2.50(mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	21.5
75	30.0 - 66.0% of mass 95	58.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	93.7
175	4.0 - 9.0% of mass 174	7.0 (7.5)1
176	93.0 - 101.0% of mass 174	90.9 (97.0)1
177	5.0 - 9.0% of mass 176	5.7 (6.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	VSTD0204	G1548	02/04/92	0952
02	VBLK04	V70204-B1	G1549	02/04/92	1113
03	E-FB-01	920045-12	G1550	02/04/92	1233
04	E-RB-01	920045-13	G1551	02/04/92	1315

077

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID (Standard): BC238 Date Analyzed: 02/03/92

Instrument ID: MS2 Time Analyzed: 1658

GC Column: DB-624 ID: 0.530(mm) Heated Purge: (Y/N) N

		IS1(BCM) AREA	#	RT	#	IS2(DFB) AREA	#	RT	#	IS3(CBZ) AREA	#	RT	#
	12 HOUR STD	22718		11.00		90504		13.05		73404		17.82	
	UPPER LIMIT	45436		11.50		181008		13.55		146808		18.32	
	LOWER LIMIT	11359		10.50		45252		12.55		36702		17.32	
	EPA SAMPLE NO.												
01	E-S-03	18681		11.00		81429		13.05		65748		17.84	
02	E-S-05	17526		11.00		71676		13.05		56980		17.82	
03	E-S-07	16916		11.02		69233		13.06		57066		17.84	
04	E-S-07D	13010		10.98		54926		13.05		42728		17.84	
05	E-S-08	20260		11.00		81696		13.05		66605		17.84	
06	E-S-09	20893		11.00		85216		13.05		69074		17.84	
07	VBLK01	20423		11.00		83684		13.07		67805		17.84	

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

078

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID (Standard): C9248 Date Analyzed: 02/04/92

Instrument ID: MS3 Time Analyzed: 1240

GC Column: DB-624 ID: 0.530(mm) Heated Purge: (Y/N) N

		IS1(BCM) AREA	#	RT	#	IS2(DFB) AREA	#	RT	#	IS3(CBZ) AREA	#	RT	#
	12 HOUR STD	20142		9.93		84730		12.14		72415		17.69	
	UPPER LIMIT	40284		10.43		169460		12.64		144830		18.19	
	LOWER LIMIT	10071		9.43		42365		11.64		36208		17.19	
	EPA SAMPLE NO.												
01	E-S-01	30418		10.00		102660		12.19		95887		17.70	
02	VBLK03	20962		9.91		90711		12.11		74858		17.67	

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID (Standard): C9267 Date Analyzed: 02/05/92

Instrument ID: MS3 Time Analyzed: 2145

GC Column: DB-624 ID: 0.530(mm) Heated Purge: (Y/N) N

		IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	27991	9.91	134131	12.12	103340	17.67
	UPPER LIMIT	55982	10.41	268262	12.62	206680	18.17
	LOWER LIMIT	13996	9.41	67066	11.62	51670	17.17
	EPA SAMPLE NO.						
01	E-S-02	26741	9.91	110065	12.12	96498	17.67
02	E-S-04	30387	9.97	120683	12.16	110633	17.69
03	E-S-06	31526	9.97	116782	12.16	109761	17.69
04	E-S-12	34070	9.94	128273	12.15	118370	17.68
05	VBLK02	28535	9.94	124454	12.17	98756	17.69

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Lab File ID (Standard): G1548 Date Analyzed: 02/04/92

Instrument ID: MS7 Time Analyzed: 0952

GC Column: SP-1000 ID: 2.50(mm) Heated Purge: (Y/N) N

		IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	49583	9.20	202004	19.46	172321	24.39
	UPPER LIMIT	99166	9.70	404008	19.96	344642	24.89
	LOWER LIMIT	24792	8.70	101002	18.96	86160	23.89
	EPA SAMPLE NO.						
01	E-FB-01	51238	9.20	208212	19.50	180106	24.38
02	E-PB-01	51957	9.20	209035	19.50	176686	24.38
03	VBLK04	52920	9.22	213936	19.48	181169	24.40

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

VOLATILES

b. Sample data

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-FB-01

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) WATER Lab Sample ID: 920045-12

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: G1550

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. ____ Date Analyzed: 02/04/92

GC Column: SP-1000 ID: 2.50 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	BJ
67-64-1	Acetone	14	
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-FB-01

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) WATER Lab Sample ID: 920045-12

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: G1550

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. ____ Date Analyzed: 02/04/92

GC Column: SP-1000 ID: 2.50 (mm) Dilution Factor: 1.0

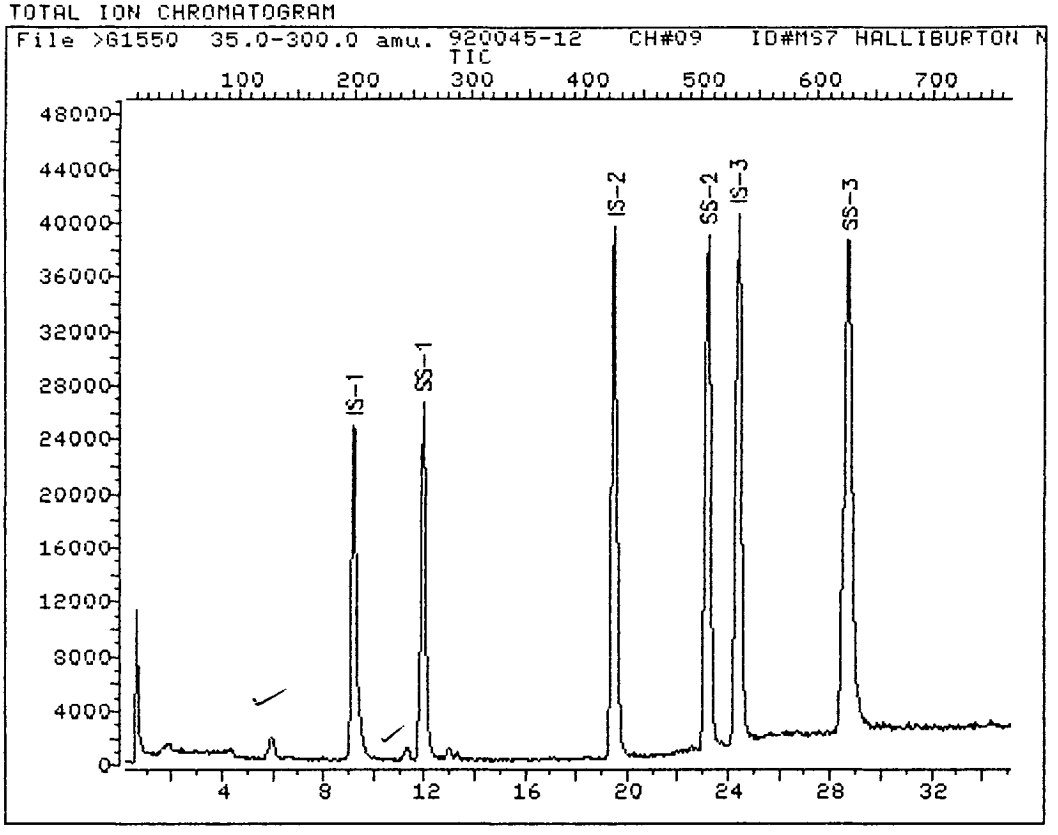
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

TOTAL ION CHROMATOGRAM



Data File: >G1550::D7 Quant Output File: ^G1550::QT
Name: 920045-12 CH#09 Instrument ID: MS7
Misc: ID#MS7 HALLIBURTON NUS E-FB-01 LOW WATER 5.0ML+QC 1

Id File: V7ID::SC
Title: VOLATILE ANALYSIS 45(3)-220(15) 8 FT SP1000 ID=MS7
Last Calibration: 910703 01:53 Last Qcal Time: 920204 09:52

Operator ID: VOA7
Quant Time : 920204 13:09
Injected at: 920204 12:33

CB

Operator ID: VOA7 Quant Rev: 7 Quant Time: 920204 13:09
Output File: ^G1550::QT Injected at: 920204 12:33
Data File: >G1550::D7 Dilution Factor: 1.00000
Name: 920045-12 CH#09 Instrument ID: MS7
Misc: ID#MS7 HALLIBURTON NUS E-FB-01 LOW WATER 5.0ML+QC 1

ID File: V7ID::SC
Title: VOLATILE ANALYSIS 45(3)-220(15) 8 FT SP1000 ID=MS7
Last Calibration: 910703 01:53 Last Qcal Time: 920204 09:52

	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*CI01 Bromochloromethane	9.20	128.0	51238	50.00	UG/L		75
6)	C030 Methylene Chloride	5.91	84.0	6988	5.24	UG/L		76
7)	C035 Acetone	6.64	43.0	3240	13.59	UG/L		97
12)	C060 Chloroform	11.34	83.0	3211	~~.809~~	UG/L		98
13)	CS15 1,2-Dichloroethane-d4	11.93	65.0	151687	49.33	UG/L	99%	85
16)	*CI10 1,4-Difluorobenzene	19.50	114.0	208212	50.00	UG/L		92
28)	*CI20 Chlorobenzene-d5	24.38	117.0	180106	50.00	UG/L		98
34)	CS05 Toluene d-8	23.19	98.0	192542	48.65	UG/L	97%	99
39)	CS10 Bromofluorobenzene	28.71	95.0	152232	50.84	UG/L	103%	91

* Compound is ISTD

reg	type	# pts	scan#	range: amu/sec.	base	file	ion range
X	GC	699	1	.17- 32.00	40661.0	>G1550	35.00- 300.00

MS data file header from : >G1550::D7

Sample: 920045-12 CH#09 Operator: VOA7 REG. GRP. 2/04/92 12:33
Misc : ID#MS7 HALLIBURTON NUS E-FB-01 LOW WATER 5.0ML+QC 1
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS7
Method file: MS7B Tuning file: TUNEG No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	45.	220.	0.	0.	0.
Chromatographic times, min. :	3.0	24.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	8.0	0.0	0.0	.1	0.0

>G1550 920045-12 CH#09 ID#MS7 HALLIBURTON NUS E-FB-01 LOW WA

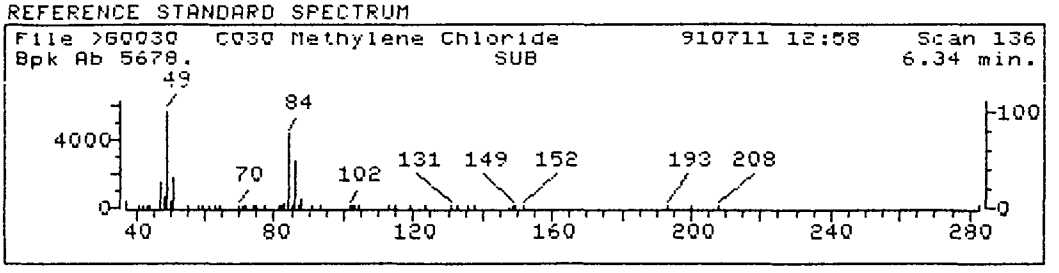
35.0| 300.0 TIC
Upslope: .2000 Area Reject: 2.00 % Max Peaks: 9 Bunch: -1 Valley >100 %
Dnslope: 0.0000 Results File VDIR87 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	.62	7	11	20	11114	101017	91310	10.69	2.663
2	1.95	28	40	48	836	68923	21969	2.57	.641
3	5.96	120	128	137	1682	50726	29570	3.46	.862
4	9.20	186	199	216	24607	403982	370334*	43.37	10.802
5	11.93	252	259	276	26281	382654	355276	41.61	10.362
6	19.50	417	425	438	39234	576697	547732	64.15	15.976
7	23.19	499	506	523	37920	627567	550641	64.49	16.061
8	24.38	524	532	545	39198	692002	607896	71.20	17.730
9	28.67	616	626	650	36269	1083040	853811	100.00	24.903

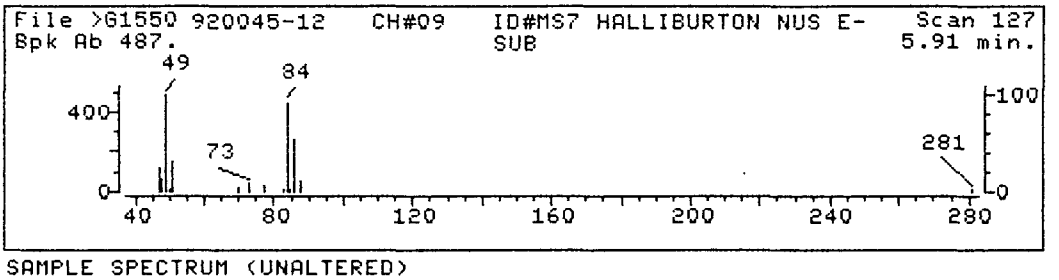
Sum of corrected areas: 3428539.

0 TIC

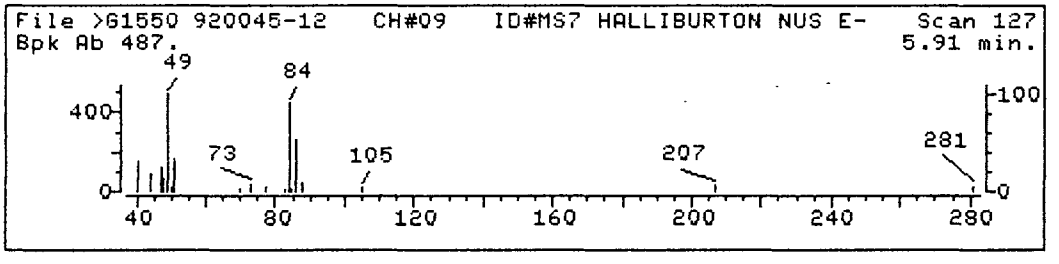
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

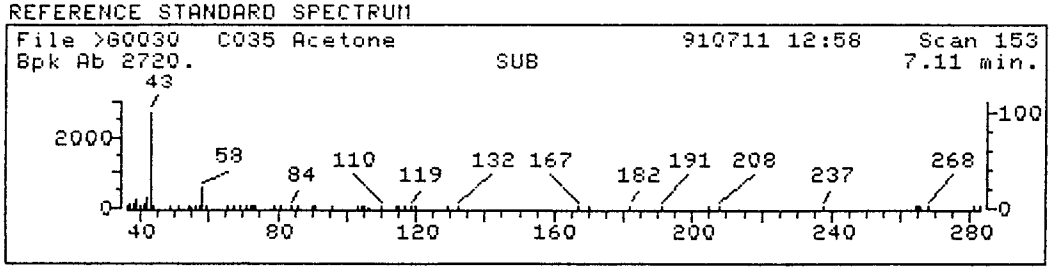


Data File: >G1550::D7 Quant Output File: ^G1550::QT
Name: 920045-12 CH#09 Instrument ID: MS7
Misc: ID#MS7 HALLIBURTON NUS E-FB-01 LOW WATER 5.0ML+QC 1
Quant Time: 920204 13:09 Quant ID File: V7ID::SC
Injected at: 920204 12:33 Last Calibration: 910703 01:53
Last Qcal Time: 920204 09:52

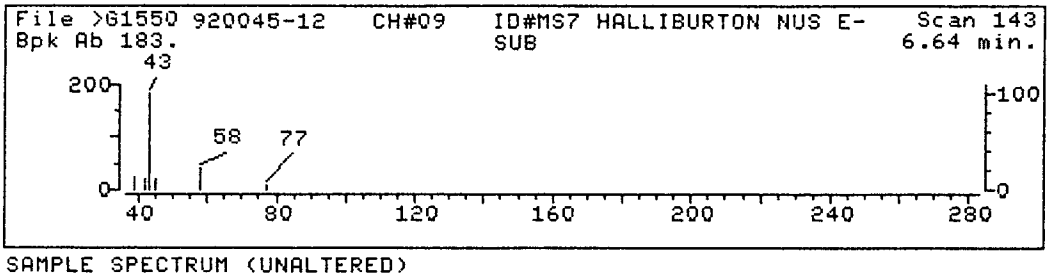
Compound No : 6
Compound Name : C030 Methylene Chloride
Scan Number : 127
Retention Time: 5.91 min.
Quant Ion : 84.0
Area : 6988
Concentration : 5.24 UG/L
q-value : 76

CB

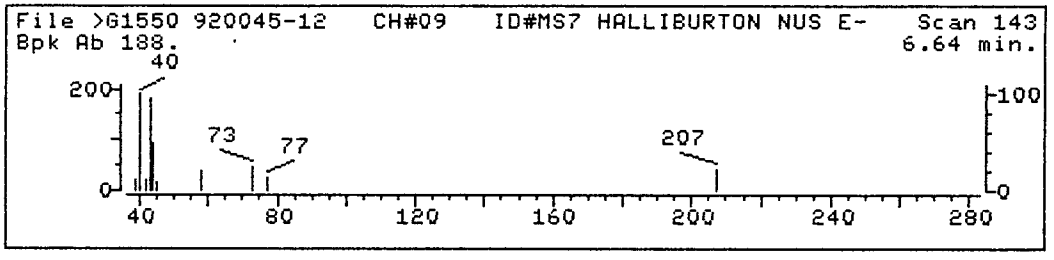
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >G1550::D7 Quant Output File: ^G1550::QT
Name: 920045-12 CH#09 Instrument ID: MS7
Misc: ID#MS7 HALLIBURTON NUS E-FB-01 LOW WATER 5.0ML+QC 1
Quant Time: 920204 13:09 Quant ID File: V7ID::SC
Injected at: 920204 12:33 Last Calibration: 910703 01:53
Last Qcal Time: 920204 09:52

Compound No : 7
Compound Name : C035 Acetone
Scan Number : 143
Retention Time: 6.64 min.
Quant Ion : 43.0
Area : 3240
Concentration : 13.59 UG/L
q-value : 97

CB

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-RB-01

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) WATER Lab Sample ID: 920045-13

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: G1551

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. ____ Date Analyzed: 02/04/92

GC Column: SP-1000 ID: 2.50 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	4	BJ
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-RB-01

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) WATER Lab Sample ID: 920045-13

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: G1551

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. ____ Date Analyzed: 02/04/92

GC Column: SP-1000 ID: 2.50 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

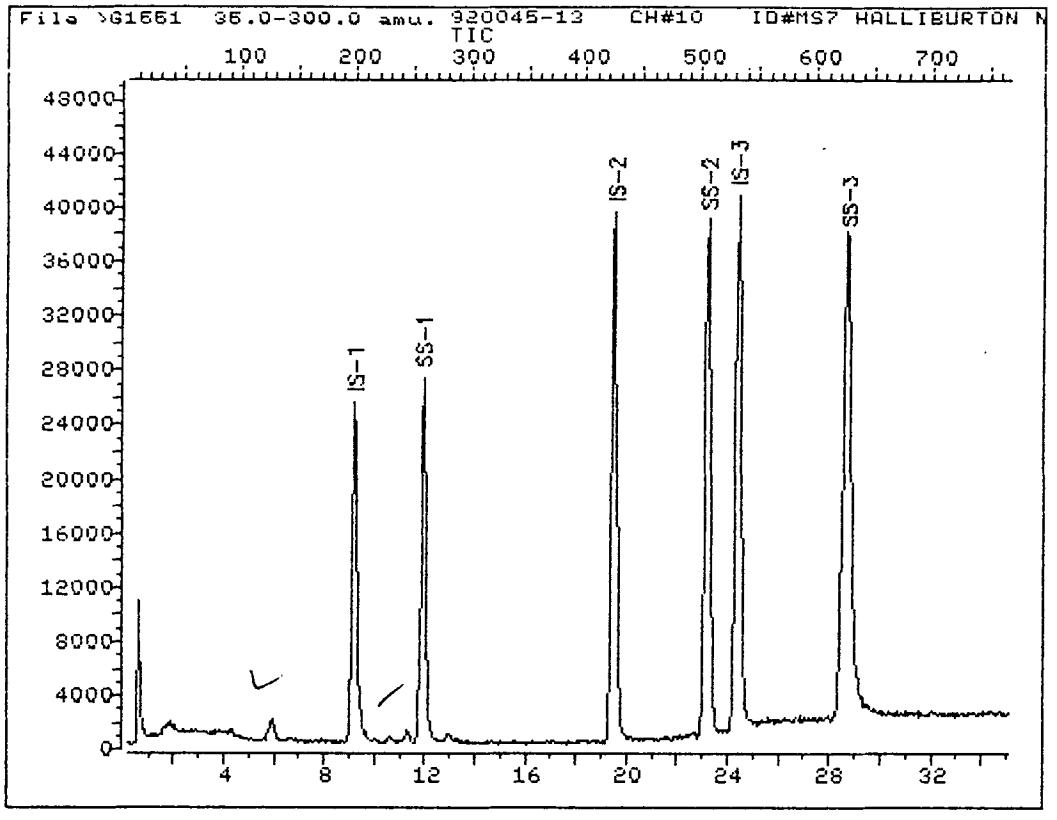
Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

991

TOTAL ION CHROMATOGRAM



Data File: >G1551::D7 Quant Output File: ^G1551::QT
Name: 920045-13 CH#10 Instrument ID: MS7
Misc: ID#MS7 HALLIBURTON NUS E-RB-01 LOW WATER 5.0ML+QC 1

Id File: V7ID::SC
Title: VOLATILE ANALYSIS 45(3)-220(15) 8 FT SP1000 ID=MS7
Last Calibration: 910703 01:53 Last Qcal Time: 920204 09:52

Operator ID: VOA7
Quant Time : 920204 13:51
Injected at: 920204 13:15

CB

Operator ID: VOA7 Quant Rev: 7 Quant Time: 920204 13:51
Output File: ^G1551::QT Injected at: 920204 13:15
Data File: >G1551::D7 Dilution Factor: 1.00000
Name: 920045-13 CH#10 Instrument ID: MS7
Misc: ID#MS7 HALLIBURTON NUS E-RB-01 LOW WATER 5.0ML+QC 1

ID File: V7ID::SC
Title: VOLATILE ANALYSIS 45(3)-220(15) 8 FT SP1000 ID=MS7
Last Calibration: 910703 01:53 Last Qcal Time: 920204 09:52

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	9.20	128.0	51957	50.00	UG/L	79
6)	C030 Methylene Chloride	5.91	84.0	6028	4.46	UG/L	79
12)	C060 Chloroform	11.29	83.0	2844	~~.706~~	UG/L	75
13)	CS15 1,2-Dichloroethane-d4	11.93	65.0	153847	49.34	UG/L 99%	83
16)	*CI10 1,4-Difluorobenzene	19.50	114.0	209035	50.00	UG/L	92
28)	*CI20 Chlorobenzene-d5	24.38	117.0	176686	50.00	UG/L	98
34)	CS05 Toluene d-8	23.19	98.0	196958	50.73	UG/L 101%	99
39)	CS10 Bromofluorobenzene	28.71	95.0	151084	51.43	UG/L 103%	88

* Compound is ISTD

CB

Key	type	# pts	scan#	range: amu r.t.		base	file	ion range
X	GC	699	1	.17-	32.00	40953.0	G1551	35.00- 300.00

MS data file header from : >G1551::D7

Sample: 920045-13 CH#10 Operator: VOA7 REG. GRP. 2/04/92 13:15
Misc : ID#MS7 HALLIBURTON NUS E-RB-01 LOW WATER 5.0ML+QC 1
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS7
Method file: MS7B Tuning file: TUNEG No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	45.	220.	0.	0.	0.
Chromatographic times, min. :	3.0	24.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	8.0	0.0	0.0	.1	0.0

>G1551 920045-13 CH#10 ID#MS7 HALLIBURTON NUS E-RB-01 LOW WA

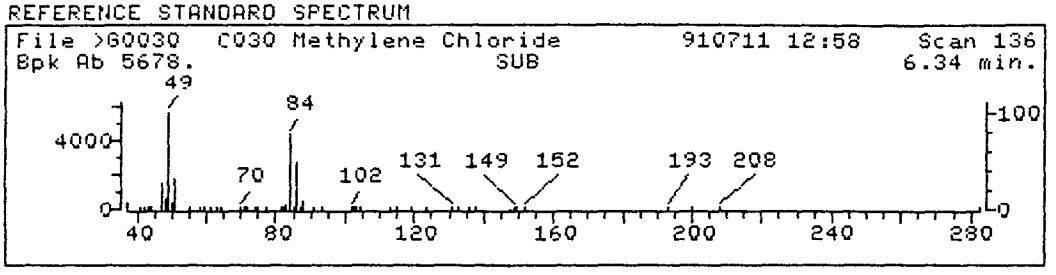
35.0| 300.0 TIC
Upslope: .2000 Area Reject: 2.00 % Max Peaks: 9 Bunch: -1 Valley >100 %
Dnslope: 0.0000 Results File VDIR87 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	.58	4	10	20	10570	103580	83286	9.55	2.408
2	1.86	31	38	48	999	75445	25060	2.87	.724
3	5.91	122	127	139	1704	54752	25831	2.96	.747
4	9.20	191	199	215	25198	402932	370070	42.41	10.698
5	11.93	252	259	274	26963	387829	358940	41.14	10.376
6	19.50	414	425	442	39148	593895	556659	63.80	16.092
7	23.19	498	506	517	38213	604212	558031	63.96	16.132
8	24.38	524	532	546	39523	694927	608806	69.78	17.600
9	28.67	615	626	653	35956	1114443	872517	100.00	25.223

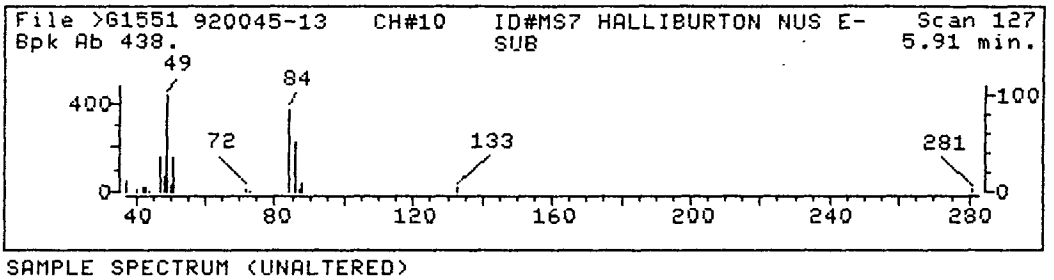
Sum of corrected areas: 3459200.

0 TIC

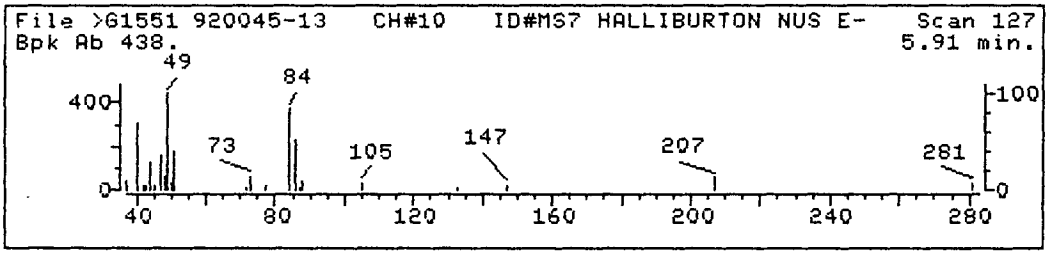
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >G1551::D7 Quant Output File: ^G1551::QT
Name: 920045-13 CH#10 Instrument ID: MS7
Misc: ID#MS7 HALLIBURTON NUS E-RB-01 LOW WATER 5.0ML+QC 1
Quant Time: 920204 13:51 Quant ID File: V7ID::SC
Injected at: 920204 13:15 Last Calibration: 910703 01:53
Last Qcal Time: 920204 09:52

Compound No : 6
Compound Name : C030 Methylene Chloride
Scan Number : 127
Retention Time: 5.91 min.
Quant Ion : 84.0
Area : 6028
Concentration : 4.46 UG/L
q-value : 79

CB

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-S-01

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-01

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C9259

Level: (low/med) MED Date Received: 02/01/92

% Moisture: not dec. 12 Date Analyzed: 02/05/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1400	U
74-83-9	Bromomethane	1400	U
75-01-4	Vinyl Chloride	1400	U
75-00-3	Chloroethane	1400	U
75-09-2	Methylene Chloride	560	J
67-64-1	Acetone	1400	U
75-15-0	Carbon Disulfide	1400	U
75-35-4	1,1-Dichloroethene	1400	U
75-34-3	1,1-Dichloroethane	1400	U
540-59-0	1,2-Dichloroethene (total)	1400	U
67-66-3	Chloroform	1400	U
107-06-2	1,2-Dichloroethane	1400	U
78-93-3	2-Butanone	1400	U
71-55-6	1,1,1-Trichloroethane	1200	J
56-23-5	Carbon Tetrachloride	1400	U
75-27-4	Bromodichloromethane	1400	U
78-87-5	1,2-Dichloropropane	1400	U
10061-01-5	cis-1,3-Dichloropropene	1400	U
79-01-6	Trichloroethene	220	J
124-48-1	Dibromochloromethane	1400	U
79-00-5	1,1,2-Trichloroethane	1400	U
71-43-2	Benzene	1400	U
10061-02-6	trans-1,3-Dichloropropene	1400	U
75-25-2	Bromoform	1400	U
108-10-1	4-Methyl-2-Pentanone	1400	U
591-78-6	2-Hexanone	1400	U
127-18-4	Tetrachloroethene	310	J
79-34-5	1,1,2,2-Tetrachloroethane	1400	U
108-88-3	Toluene	2600	
108-90-7	Chlorobenzene	1400	U
100-41-4	Ethylbenzene	4500	
100-42-5	Styrene	1400	U
1330-20-7	Xylene (total)	33000	E

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-01

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-01

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C9259

Level: (low/med) MED Date Received: 02/01/92

% Moisture: not dec. 12 Date Analyzed: 02/05/92

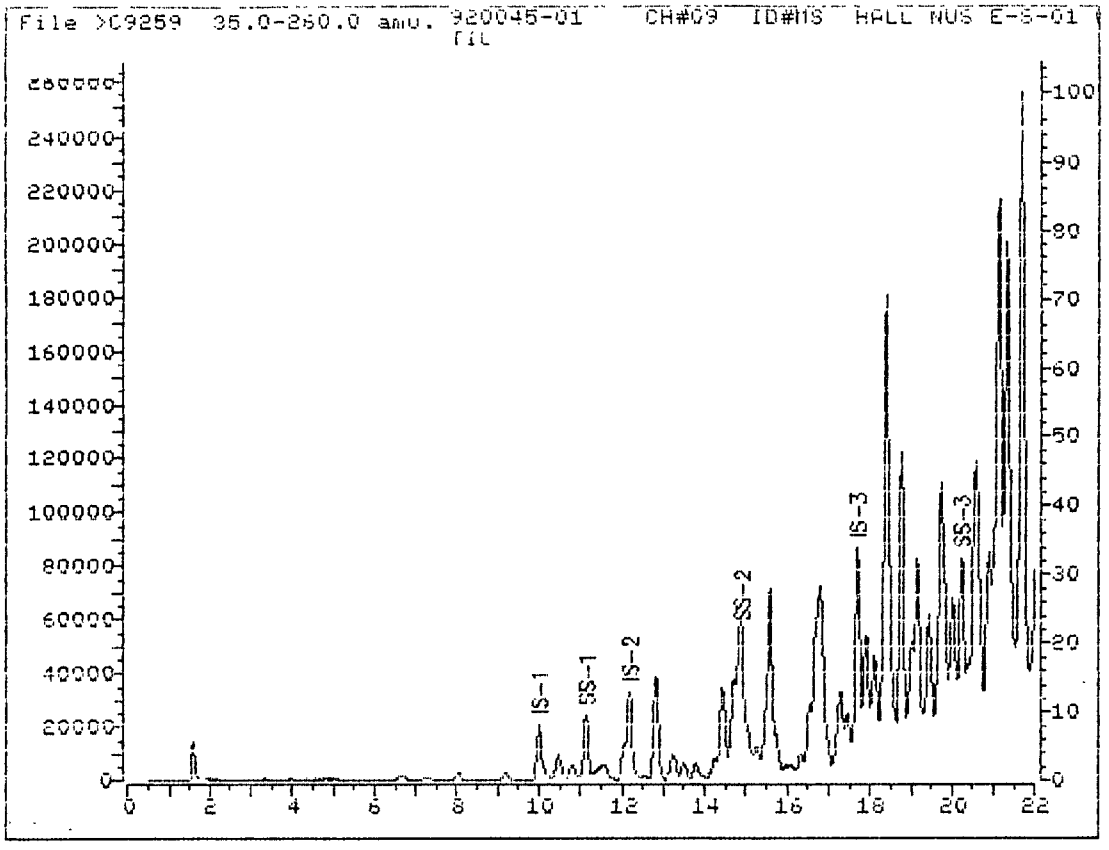
GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 15

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	C7H14 isomer	12.81	9500	J
2. 000000	Aliphatic hydrocarbon	14.43	8100	J
3. 000000	Aliphatic hydrocarbon	14.71	7000	J
4. 000000	Aliphatic hydrocarbon	15.59	16000	J
5. 000000	Trimethylcyclohexane isomer	16.80	28000	J
6. 000000	Trimethylcyclohexane isomer	17.27	7700	J
7. 000000	C9H20 isomer	17.90	3400	J
8. 000000	Aliphatic hydrocarbon	18.76	9100	J
9. 000000	Unknown	19.44	3600	J
10. 000000	Unknown	19.74	12000	J
11. 000000	Unknown	20.56	12000	J
12. 000000	C3-benzene isomer	20.87	5300	J
13. 000000	C3-benzene isomer	21.13	20000	J
14. 000000	C3-benzene isomer	21.32	18000	J
15. 000000	Unknown	21.68	22000	J



MS data file header from : >C9259::D5

Sample: 920045-01 CH#09 Operator: VOA2 REG. GRP. 2/05/92 0:19
Misc : ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

Operator ID: VOHZ Quant Rev: 7 Quant Time: 920205 00:50
Output File: L9259::Q1 Injected at: 920205 00:19
Data File: >L9259::D5 Dilution Factor: 1.00000
Name: 920045-01 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH

ID File: V31D::SL
Title: VOLATILE ANALYSIS CLP-ICL DB624 30Mx0.53IDx3uM ID#MS3
Last Calibration: 910429 11:21 Last Qcal Time: 920204 12:40

	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*CI01 Bromochloromethane	10.00	128.0	30418	50.00	UG/L		85
6)	C030 Methylene Chloride	6.62	84.0	2963	3.97	UG/L		67
13)	CS15 1,2-Dichloroethane-d4	11.15	65.0	52140	39.82	UG/L	80%	99
16)	*CI10 1,4-Difluorobenzene	12.19	114.0	102660	50.00	UG/L		100
17)	C115 1,1,1-Trichloroethane	10.45	97.0	16252	8.35	UG/L		81
18)	C120 Carbon Tetrachloride	10.45	117.0	2270	1.06	UG/L		87
22)	C150 Trichloroethene	12.54	130.0	1836	1.52	UG/L		85
25)	C165 Benzene	11.17	78.0	3755	2.69	UG/L		100
28)	*CI20 Chlorobenzene-d5	17.70	117.0	95887	50.00	UG/L		96
30)	C205 4-Methyl-2-Pentanone Ratio .88	14.43	43.0	45003	169.75	UG/L		51
31)	C220 Tetrachloroethene	16.06	164.0	3101	2.18	UG/L		95
33)	C230 Toluene	15.02	91.0	38979	18.39	UG/L		98
34)	CS05 Toluene d-8	14.90	98.0	102296	52.75	UG/L	106%	98
35)	C235 Chlorobenzene	17.68	112.0	2302	1.10	UG/L		73
36)	C240 Ethylbenzene	18.11	106.0	25142	31.83	UG/L		96
38)	C250 Total Xylenes	18.37	106.0	224420M	230.77	UG/L		98
39)	CS10 Bromofluorobenzene	20.23	95.0	71637	41.71	UG/L	83%	86

* Compound is ISID

6/2

$125 \times \frac{1}{0.88} = 142$

099

CB

Chromatographic temperatures : 0. 110. 170. 0. 0.
Chromatographic times, min. : 5.0 0.0 15.0 0.0 0.0
Chromatographic rate, deg/min: 6.0 50.0 0.0 1.5 0.0

>C9259 920045-01 CH#09 ID#MS HALL NUS E-S-01 MED SOIL 4G/10ML

35.0| 260.0 TIC
Upslope: .2000 Area Reject:10.00 % Max Peaks: 26 Bunch: 1 Valley >100 %
Dnslope: 0.0000 Results File VDIR87 Sorted by Time/Area INT

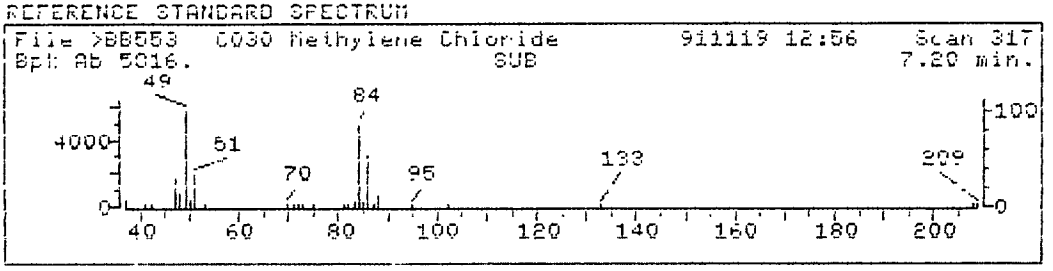
Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	10.00	480	487	501	20618	183174	174165	10.74	1.211
2	11.13	537	545	553	22940	197101	167282	10.31	1.163
3	12.17	594	598	613	32195	261987	238861*	14.73	1.661
4	12.81	623	631	643	38613	327297	318128	19.61	2.212
5	14.43	707	714	721	31247	337780	271164*	16.72	1.885
6	14.71	721	728	730	31649	292907	231933*	14.30	1.613
7	14.88	733	737	753	50488	663932	467014*	28.79	3.247
8	15.59	762	773	779	63167	697890	538765	33.21	3.746
9	16.80	824	835	849	66393	1142874	960541	59.22	6.678
10	17.27	849	859	864	26640	365962	256581	15.82	1.784
11	17.70	874	881	886	71627	723852	512791	31.61	3.565
12	17.90	886	891	896	35300	470406	249752*	15.40	1.736
13	18.11	897	902	907	26253	414765	171949*	10.60	1.196
14	18.39	908	916	929	159800	1876432	1357268	83.67	9.437
15	18.76	929	935	942	100677	977804	656525	40.47	4.565
16	19.01	942	948	951	28231	451269	204730	12.62	1.423
17	19.15	951	955	962	57808	687685	363863	22.43	2.530
18	19.44	964	970	976	37634	602192	255142	15.73	1.774
19	19.74	977	985	994	86229	1355510	862524	53.17	5.997
20	20.01	994	999	1005	30706	687595	210115*	12.95	1.461
21	20.23	1005	1010	1016	45123	750986	262447	16.18	1.825
22	20.56	1021	1027	1037	85213	1482752	867312*	53.47	6.030
23	20.87	1038	1043	1047	50586	742684	380275	23.44	2.644
24	21.13	1050	1056	1061	175937	1973002	1455419*	89.72	10.119
25	21.32	1061	1066	1076	160021	2028143	1326323*	81.77	9.221
26	21.68	1077	1084	1094	215309	2416276	1622090*	100.00	11.278

Sum of corrected areas: 14382964.

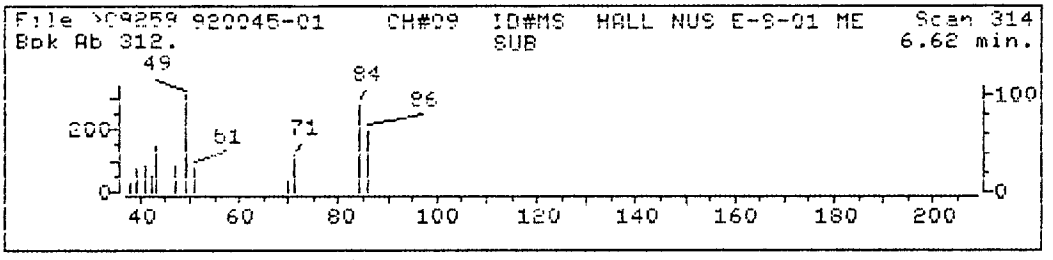
Ab 15 TC

G/C

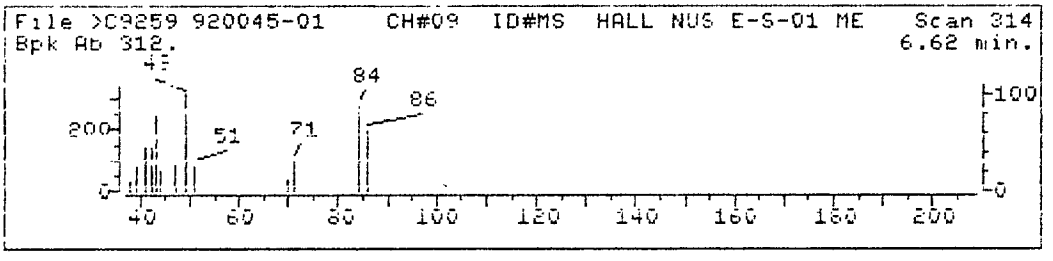
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

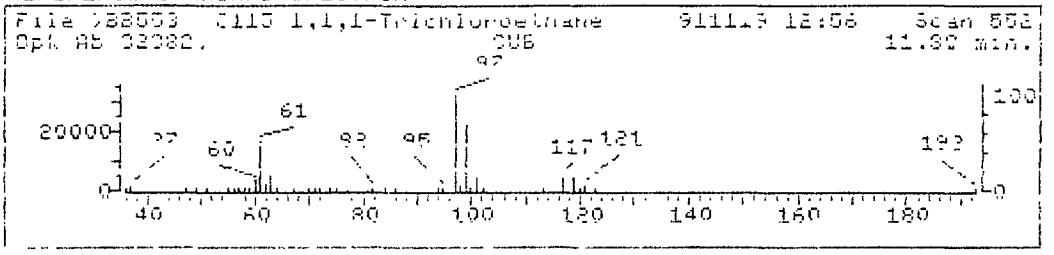


Data File: >C9259::D5 Quant Output File: ^C9259::Q7
Name: 920045-01 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH
Quant Time: 920205 00:50 Quant ID File: V3ID::SC
Injected at: 920205 00:19 Last Calibration: 910429 11:21
Last Qcal Time: 920204 12:40

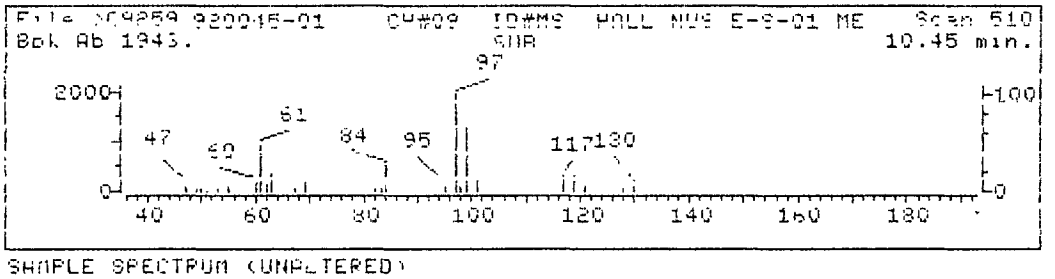
Compound No : 6
Compound Name : C030 Methylene Chloride
Scan Number : 314
Retention Time: 6.62 min.
Quant Ion : 84.0
Area : 2963
Concentration : 3.97 UG/L
q-value : 67

CB

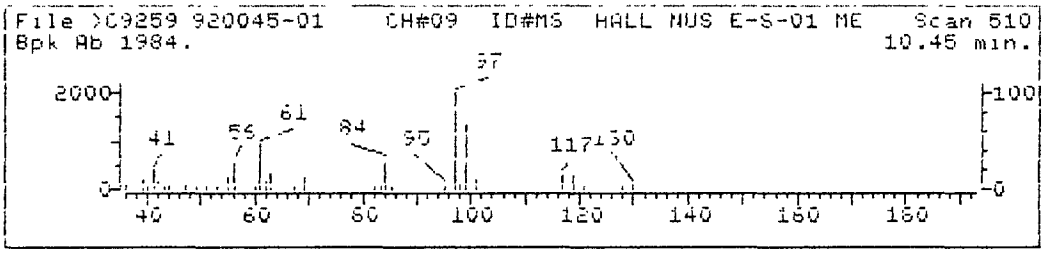
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



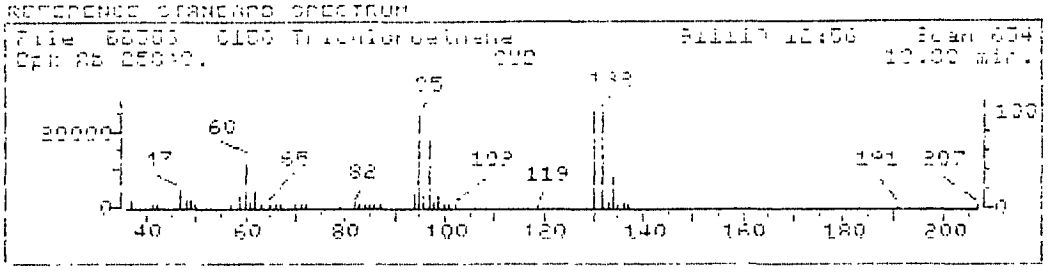
SAMPLE SPECTRUM (UNALTERED)



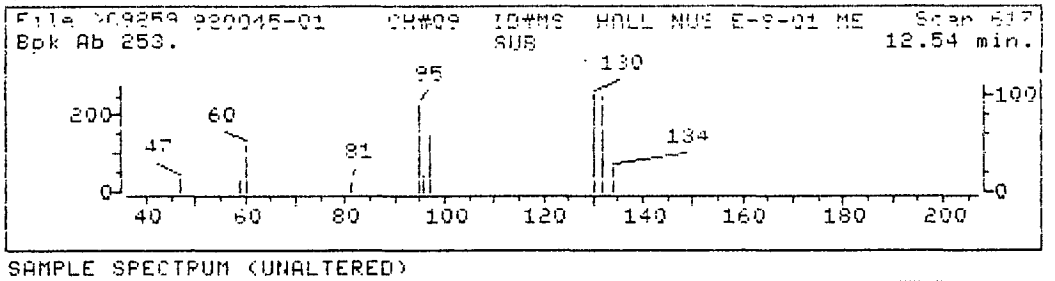
Data File: >C9259::D5 Quant Output File: `C9259::QT
Name: 920045-01 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL 1H
Quant Time: 920205 00:50 Quant ID File: V3ID::SC
Injected at: 920205 00:19 Last Calibration: 910429 11:21
Last Qcal Time: 920204 12:40

Compound No : 17
Compound Name : L115 1,1,1-Trichloroethane
Scan Number : 510
Retention Time: 10.45 min.
Quant Ion : 97.0
Area : 16252
Concentration : 8.56 UG/L
q-value : 81

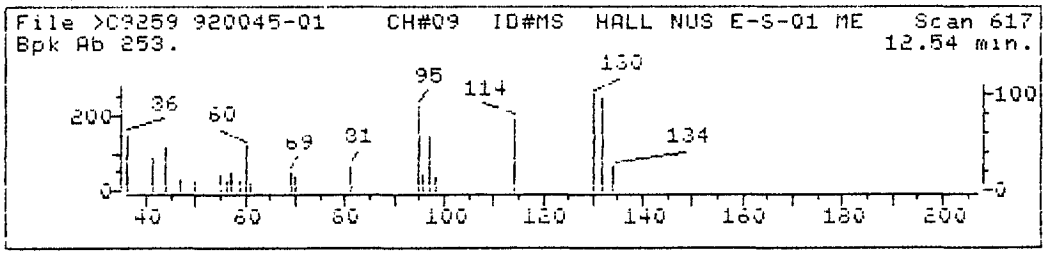
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

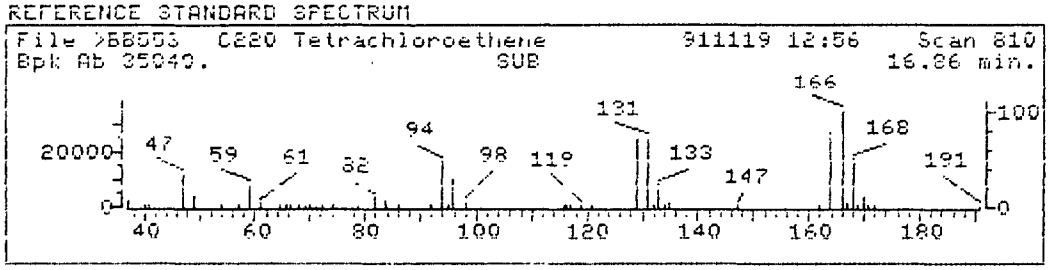


Data File: >C9259::D6 Quant Output File: ^C9259::QT
Name: 920045-01 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-01 MED SOIL 46/10MLX100UL 1U
Quant Time: 920205 00:50 Quant ID File: 0310::SC
Injected at: 920205 00:19 Last Calibration: 910429 11:21
Last Qcal Time: 920204 12:40

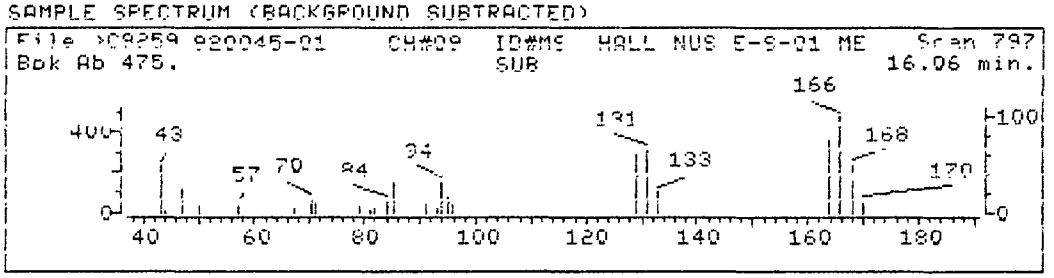
Compound No : 32
Compound Name : C150 Trichloroethene
Scan Number : 617
Retention Time: 12.54 min.
Quant Ion : 130.0
Area : 1836
Concentration : 1.52 UG/L
q-value : 85

CB

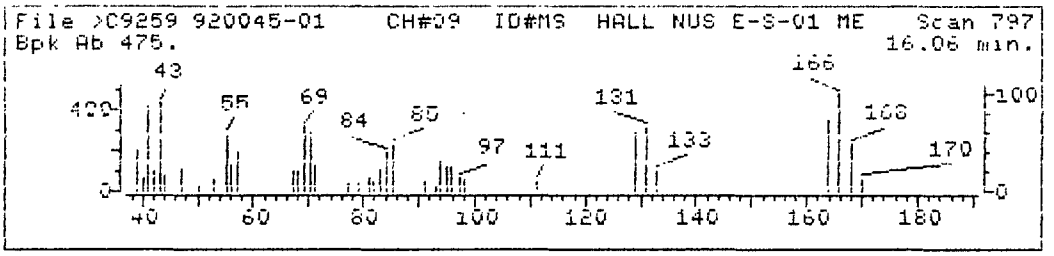
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

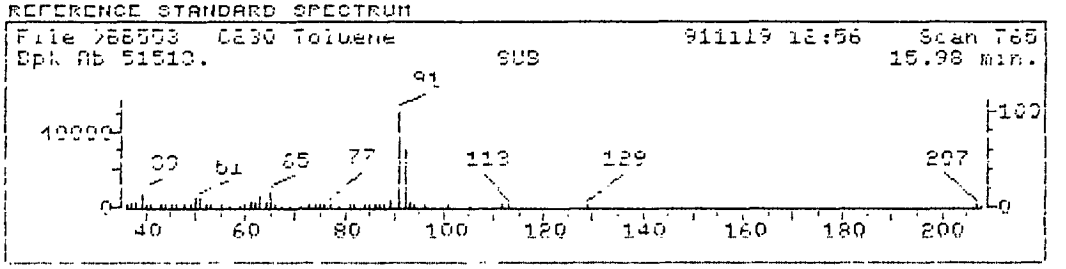


Data File: >C9259::D5 Quant Output File: ^C9259::QT
Name: 920045-01 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH
Quant Time: 920205 00:50 Quant ID File: V31D::SC
Injected at: 920205 00:19 Last Calibration: 910429 11:21
Last Qcal Time: 920204 12:40

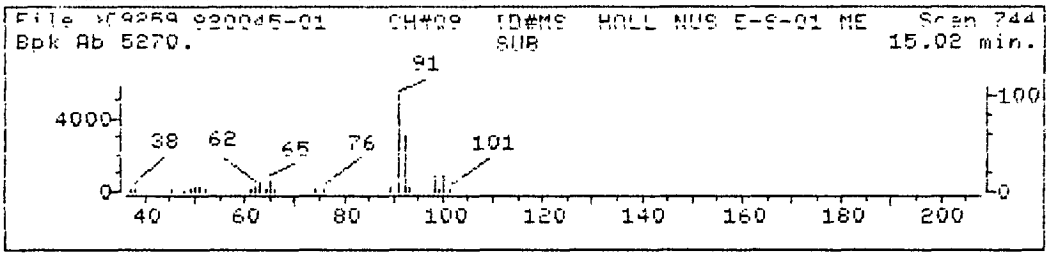
Compound No : 31
Compound Name : C220 Tetrachloroethene
Scan Number : 797
Retention Time: 16.06 min.
Quant Ion : 164.0
Area : 3101
Concentration : 2.18 UG/L
q-value : 95

CB

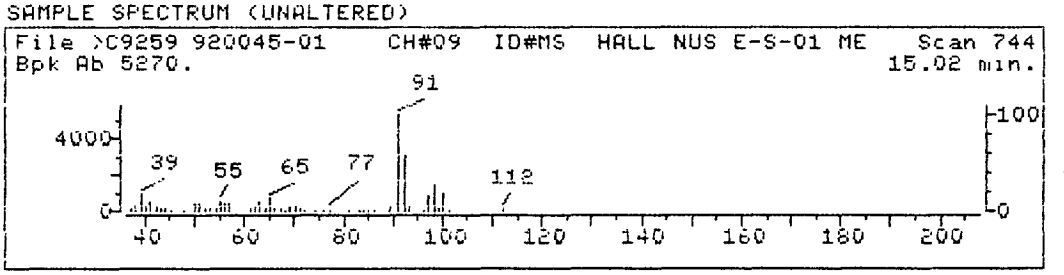
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



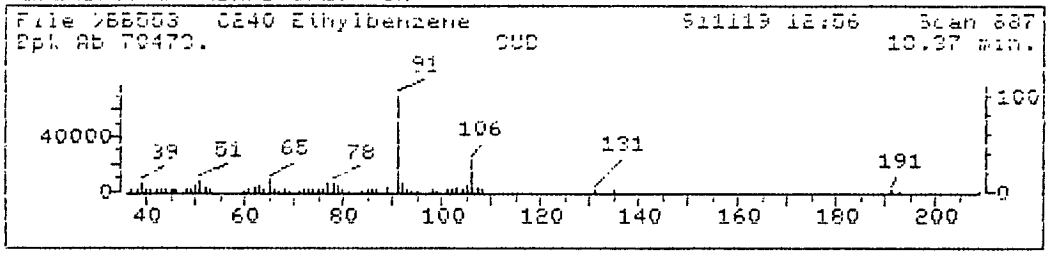
SAMPLE SPECTRUM (UNALTERED)



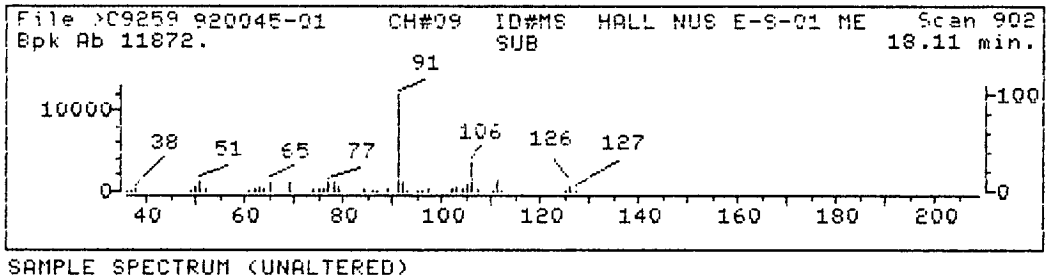
Data File: >C9259::D5 Quant Output File: ^C9259::QT
Name: 920045-01 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH
Quant Time: 920205 00:50 Quant ID File: V3ID::SC
Injected at: 920205 00:19 Last Calibration: 910429 11:21
Last Qcal Time: 920204 12:40

Compound No : 33
Compound Name : C230 Toluene
Scan Number : 744
Retention Time: 15.02 min.
Quant Ion : 91.0
Area : 389/9
Concentration : 18.39 UG/l
q-value : 98

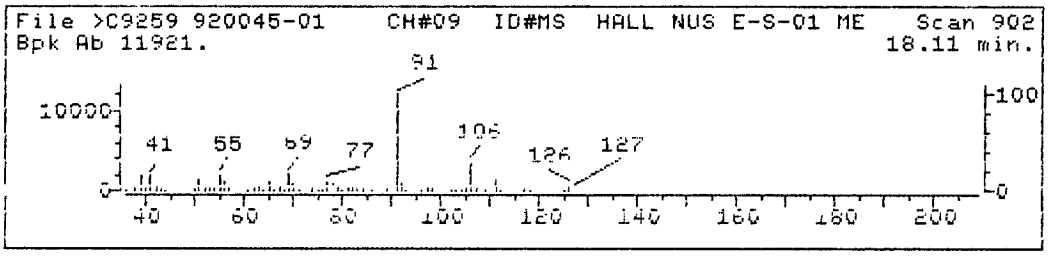
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

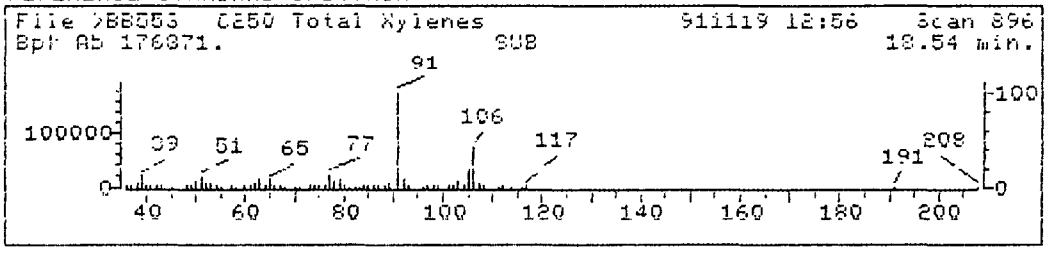


Data File: >C9259::D5 Quant Output File: ^C9259::Q1
Name: 920045-01 CH#09 Instrument ID: MS5
Misc: ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH
Quant Time: 920205 00:50 Quant ID File: V31D::SC
Injected at: 920205 00:19 Last Calibration: 910429 11:21
Last Qcal Time: 920204 12:40

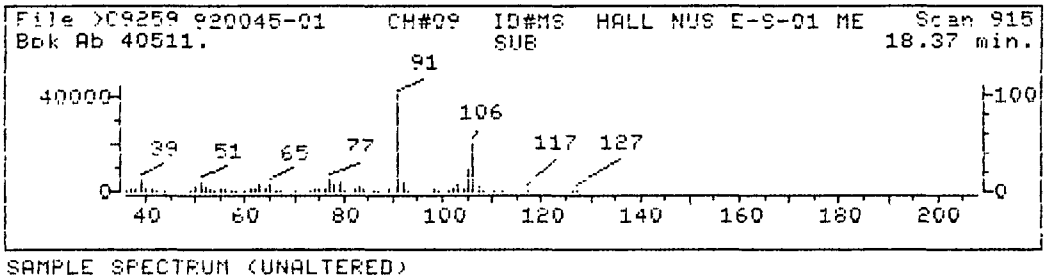
Compound No : 36
Compound Name : C240 Ethylbenzene
Scan Number : 902
Retention Time: 18.11 min.
Quant Ion : 106.0
Area : 25142
Concentration : 31.83 UG/l
q-value : 96

CB

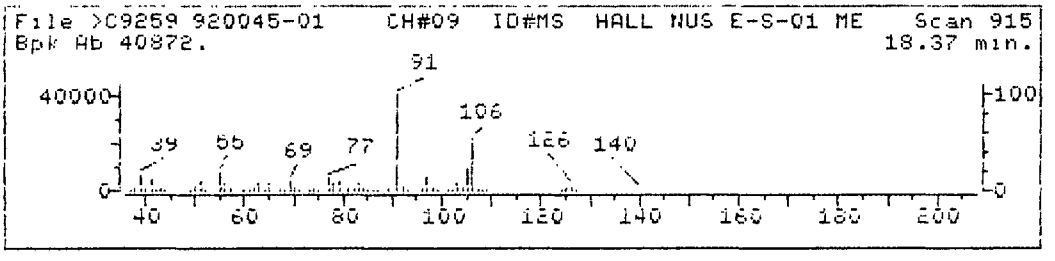
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >C9259::D5 Quant Output File: ^L9259::Q1
Name: 920045-01 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH
Quant Time: 920205 00:50 Quant ID File: V31D::SC
Injected at: 920205 00:19 Last Calibration: 910429 11:21
Last Qcal Time: 920204 12:40

Compound No : 38
Compound Name : C250 Total Xylenes
Scan Number : 915
Retention Time: 18.37 min.
Quant Ion : 106.0
Area : 224420M
Concentration : 250.77 UG/L
q-value : 98

CB

MS data file header from : >C9259::D5

Sample: 920045-01 CH#09 Operator: VOA2 REG. GRP. 2/05/92 0:19
Misc : ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Cyclohexane, methyl- (8CI9CI) 98 C7H14
2. 1H-Pyrazole, 4,5-dihydro-4,5-dimethyl- (9CI) 98 C5H10N2
3. Cyclopropane, 1,1,2,2-tetramethyl- (8CI9CI) 98 C7H14
4. 1-Butene, 2,3,3-trimethyl- (8CI9CI) 98 C7H14
5. 2-Pentene, 2,4-dimethyl- (8CI9CI) 98 C7H14

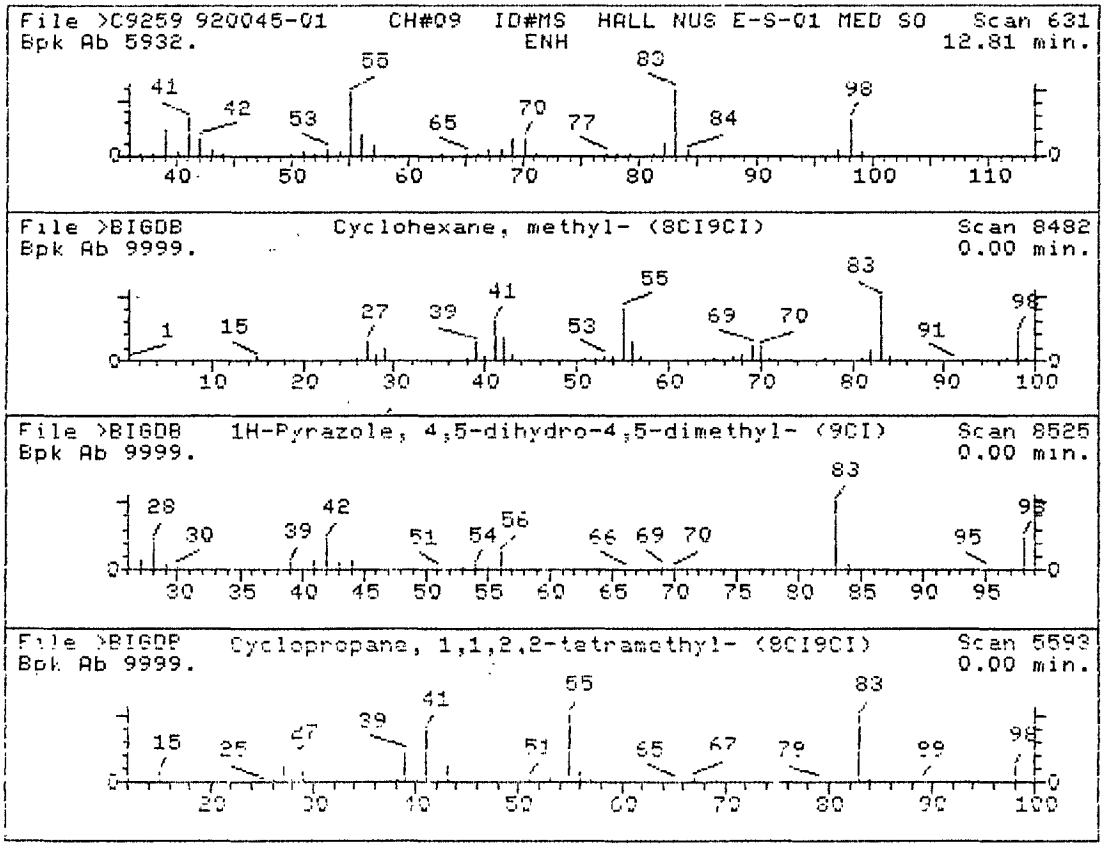
Sample file: >C9259 Spectrum #: 631
Search speed: 2 Tilting option: S No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	108872	8482	"BIGDB	77	26	1	0	95	2	66	74
2.	63*	28019945	8525	"BIGDB	51	42	2	0	100	18	30	32
3.	62*	4127473	5593	"BIGDB	56	41	0	0	75	45	18	67
4.	58*	594569	5587	"BIGDB	44	46	0	0	93	40	19	49
5.	58*	625650	5588	"BIGDB	52	39	0	0	86	43	18	63

C_7H_{14} isomer

$conc = \frac{318128}{238861} \times \frac{50}{1}$

$= 67.0$



108

MS data file header from : >C9259::D5

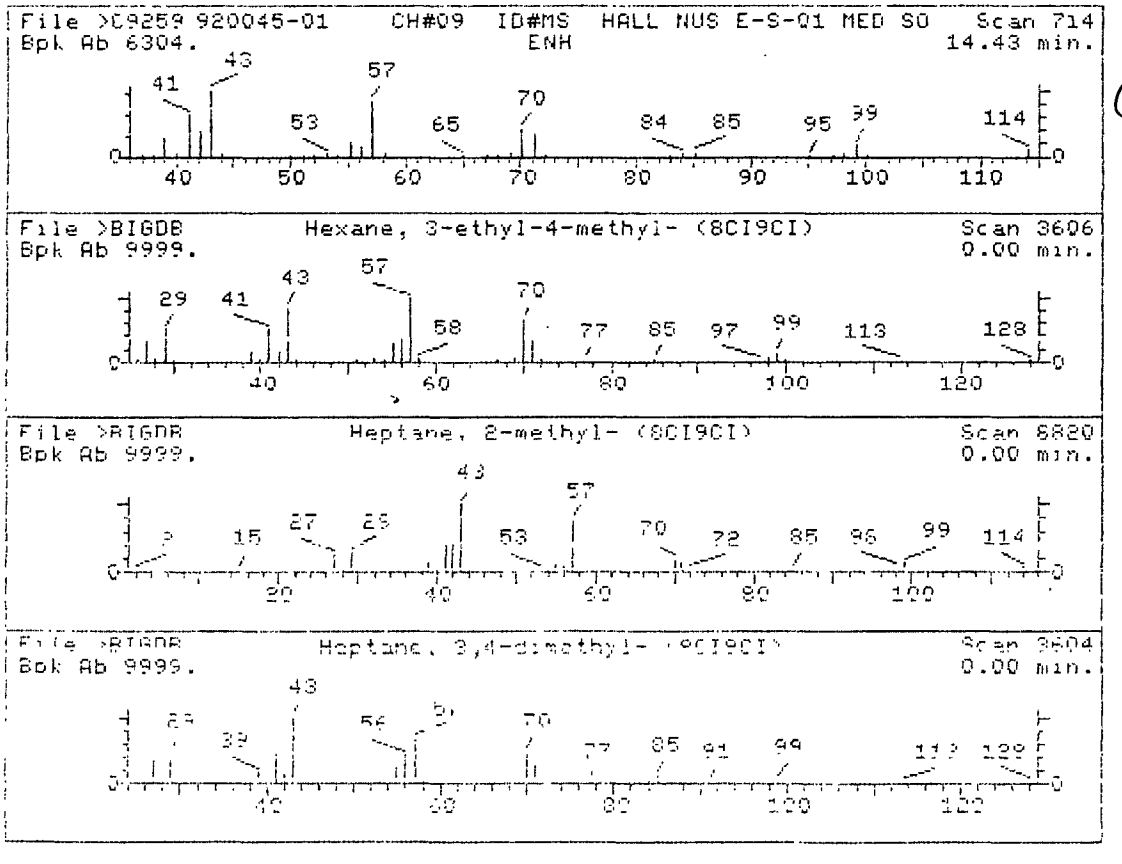
Sample: 920045-01 CH#09 Operator: VOA2 REG. GRP. 2/05/92 0:19
Misc : ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Hexane, 3-ethyl-4-methyl- (8CI9CI) 128 C9H20
2. Heptane, 2-methyl- (8CI9CI) 114 C8H18
3. Heptane, 3,4-dimethyl- (8CI9CI) 128 C9H20
4. Octane, 2,5-dimethyl- (8CI9CI) 142 C10H22
5. Heptane, 2,3,4-trimethyl- (9CI) 142 C10H22

Sample file: >C9259 Spectrum #: 714
Search speed: 3 Tilting option: S No. of ion ranges searched: 50

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	70	3074779	3606	"BIGDB	47	49	2	0	64	9	42	12
2.	62*	592278	8820	"BIGDB	41	52	0	0	87	30	25	43
3.	60	922281	3604	"BIGDB	49	48	2	0	87	11	30	12
4.	52	15869893	8749	"BIGDB	49	43	2	0	84	19	20	15
5.	51	52896954	8759	"BIGDB	42	48	0	0	79	23	22	23



Aliphatic hydrocarbon

$$\text{CONC} = \frac{(27164)(50)}{(238861)(1)} = 57\ \text{ppb}$$

01/K

MS data file header from : >C9259::D5

Sample: 920045-01 CH#09 Operator: VOA2 REG. GRP. 2/05/92 0:19
Misc : ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

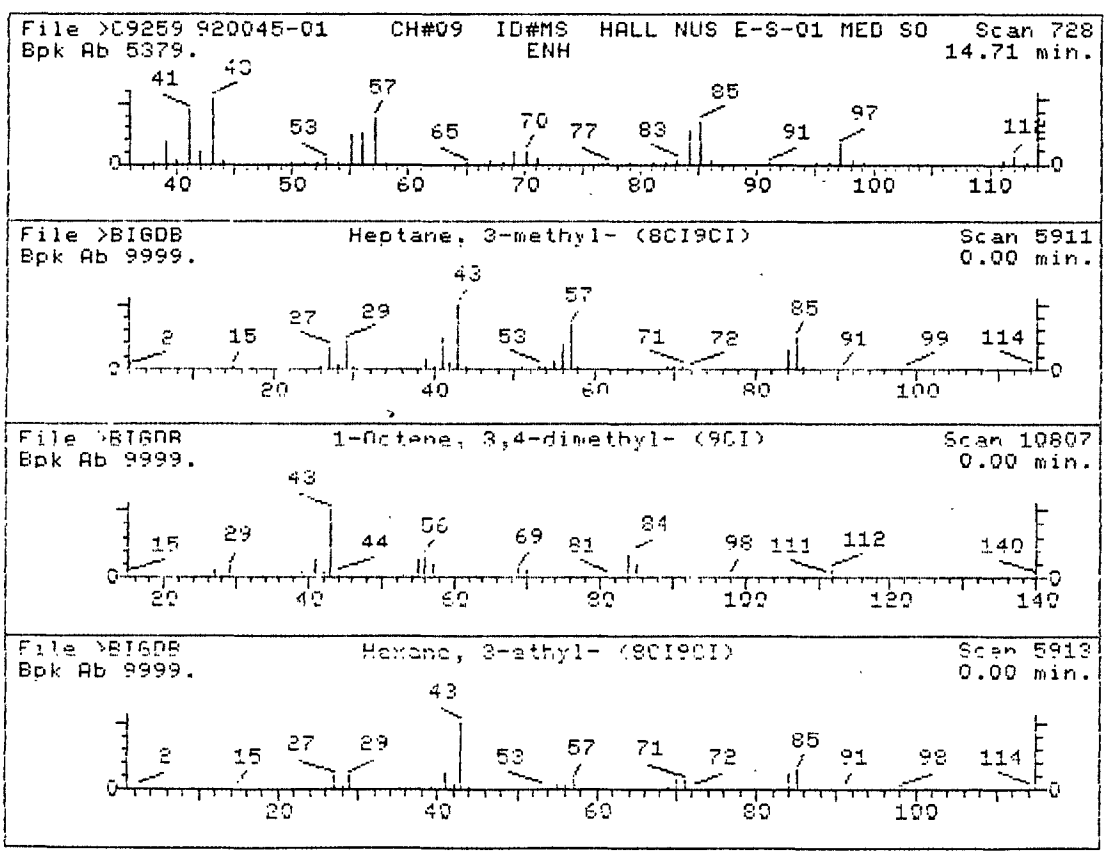
1. Heptane, 3-methyl- (8CI9CI) 114 C8H18
2. 1-Octene, 3,4-dimethyl- (9CI) 140 C10H20
3. Hexane, 3-ethyl- (8CI9CI) 114 C8H18
4. Hexane, 3-ethyl-2-methyl- (8CI9CI) 128 C9H20
5. Furan, tetrahydro-2,4-dimethyl-, trans- (9CI) 100 C6H12O

Sample file: >C9259 Spectrum #: 728
Search speed: 2 Tilting option: S No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	51*	589811	5911	"BIGDB	39	52	0	0	100	40	19	42
2.	30	56728111	10807	"BIGDB	50	46	2	0	114	33	12	13
3.	25*	619998	5913	"BIGDB	36	54	3	0	224	45	8	13
4.	25	16789461	5930	"BIGDB	53	34	3	0	160	47	7	15
5.	25	39168020	6023	"BIGDB	51	47	2	0	56	41	8	13

Aliphatic hydrocarbon

$$\text{cmc} = \frac{231933}{238861} \times 50 = 49.0$$



110

MS data file header from : >C9259::D5

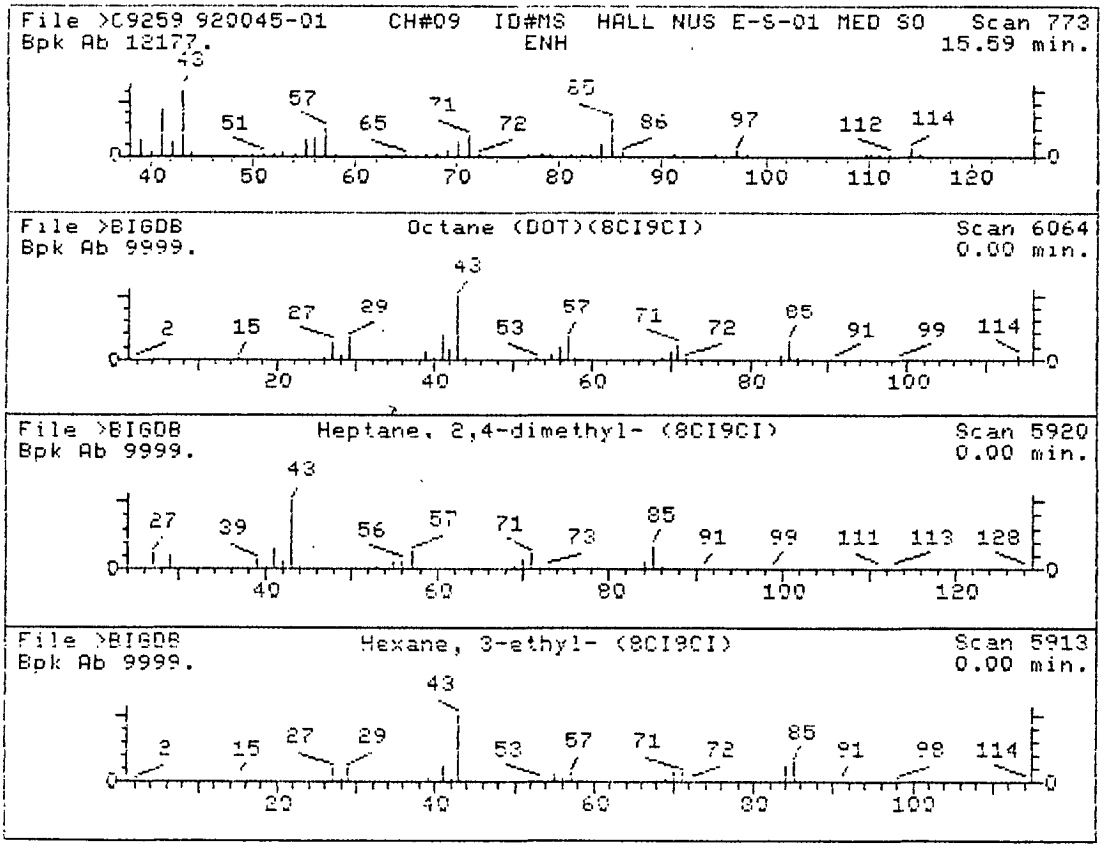
Sample: 920045-01 CH#09 Operator: VOA2 REG. GRP. 2/05/92 0:19
Misc : 1D#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Octane (DOT)(8CI9CI) 114 C8H18
2. Heptane, 2,4-dimethyl- (8CI9CI) 128 C9H20
3. Hexane, 3-ethyl- (8CI9CI) 114 C8H18
4. Hexane, 2,3,4-trimethyl- (8CI9CI) 128 C9H20
5. Hexane, 2,4-dimethyl- (8CI9CI) 114 C8H18

Sample file: >C9259 Spectrum #: 773
Search speed: 2 Tilting option: S No. of ion ranges searched: 44

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	59*	111659	6064	"BIGDB	46	47	0	0	100	38	21	54
2.	58	2213232	5920	"BIGDB	61	31	2	0	142	20	25	21
3.	42*	619998	5913	"BIGDB	38	52	2	0	173	27	14	19
4.	40	921471	5917	"BIGDB	48	42	0	0	96	37	14	27
5.	38*	589435	5910	"BIGDB	39	59	2	0	94	27	14	15



Aliphatic hydrocarbon

conc = 538765 × 5/2386 = 113.0

unknown

111

MS data file header from : >C9259::D5

Sample: 920045-01 CH#09 Operator: VOA2 REG. GRP. 2/05/92 0:19
Misc : ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Cyclohexane, 1,1,3-trimethyl- (8CI9CI) 126 C9H18
2. 3-Hexene, 2,5-dimethyl-, (E)- (8CI9CI) 112 C8H16
3. 4-Octene, (E)- (8CI9CI) 112 C8H16
4. Cyclooctane (8CI9CI) 112 C8H16
5. Cyclooctane, butyl- (8CI) 168 C12H24

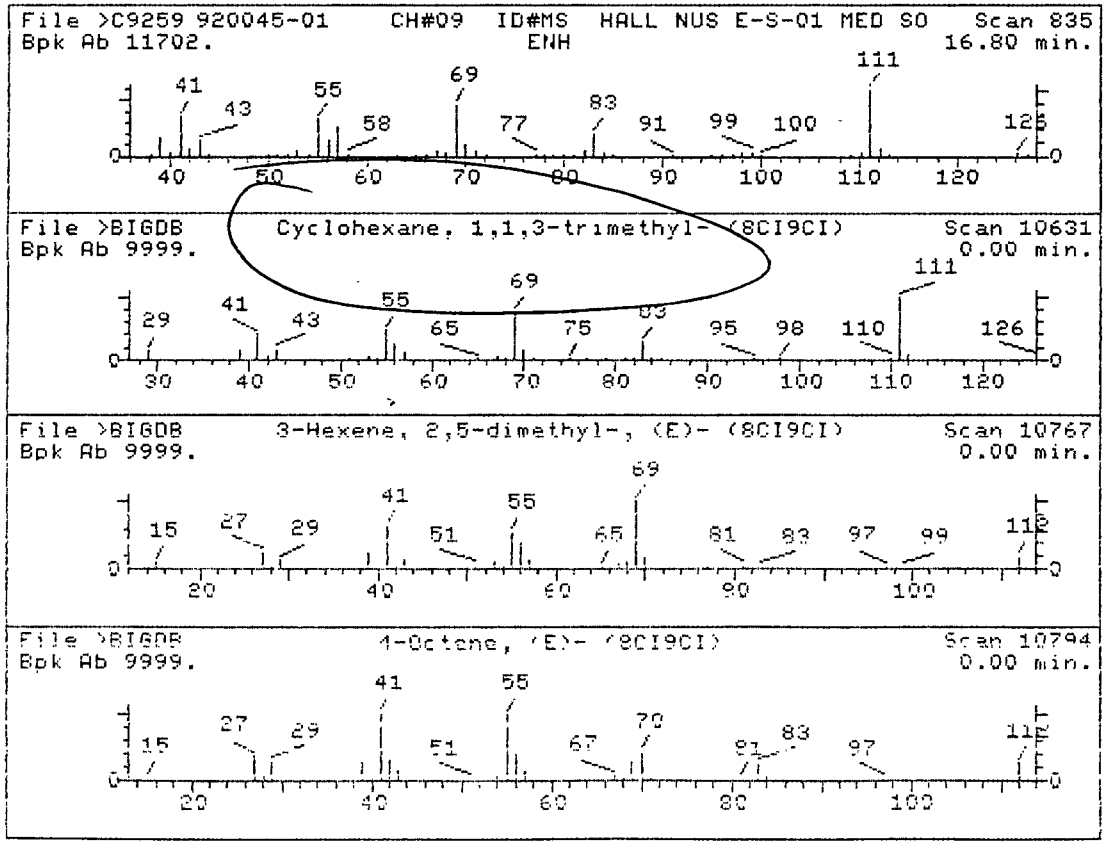
Sample file: >C9259 Spectrum #: 835
Search speed: 2 Tilting option: S No. of ion ranges searched: 40

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	96*	3073663	10631	"BIGDB	80	19	0	0	100	3	72	94
2.	63*	692706	10767	"BIGDB	56	41	2	1	53	16	30	31
3.	49*	14850238	10794	"BIGDB	47	40	2	1	39	25	22	21
4.	37*	292648	10759	"BIGDB	41	53	2	1	35	29	14	14
5.	29	16538935	10637	"BIGDB	40	55	1	0	71	32	12	12

Trimethyl cyclohexane isomer

conc = $\frac{960541}{238861} \times \frac{50}{1}$

= 200.0



O/K

112

unknown

MS data file header from : >C9259::D5

Sample: 920045-01 CH#09 Operator: VOA2 REG. GRP. 2/05/92 0:19
Misc : ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

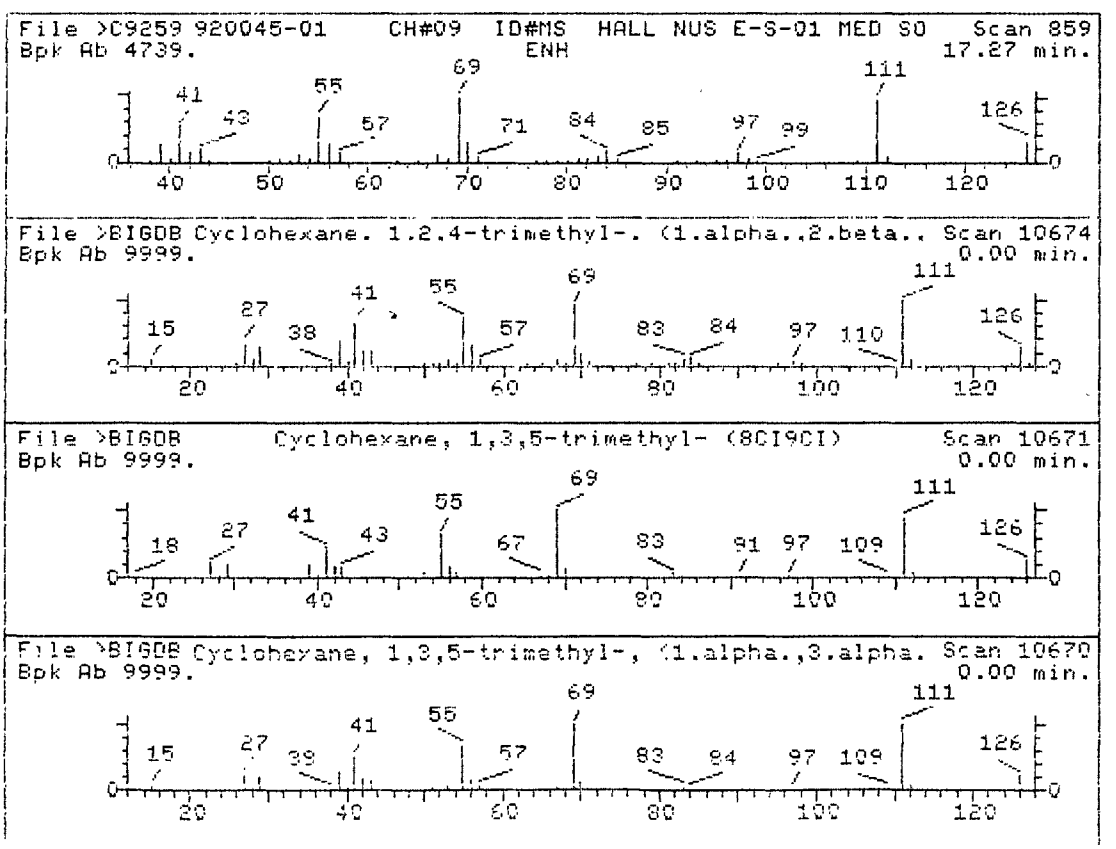
1. Cyclohexane, 1,2,4-trimethyl-, (1.alpha.,2.beta.,4.beta.)- (9CI) 126 C9H18
2. Cyclohexane, 1,3,5-trimethyl- (8CI9CI) 126 C9H18
3. Cyclohexane, 1,3,5-trimethyl-, (1.alpha.,3.alpha.,5.alpha.)- (9CI) 126 C9H18
4. Cyclohexane, 1,3,5-trimethyl-, (1.alpha.,3.alpha.,5.beta.)- (9CI) 126 C9H18
5. Cyclohexane, 1,2,4-trimethyl- (8CI9CI) 126 C9H18

Sample file: >C9259 Spectrum #: 859
Search speed: 2 Tilting option: S No. of ion ranges searched: 40

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	84*	7667609	10674	"BIGDB	67	44	1	0	92	6	55	66
2.	79*	1839630	10671	"BIGDB	57	43	0	0	99	15	43	69
3.	79*	1795273	10670	"BIGDB	53	46	0	0	96	15	43	65
4.	74*	1795262	10669	"BIGDB	62	51	2	0	93	12	39	40
5.	64*	2234755	10672	"BIGDB	58	59	0	0	56	41	24	71

Trimethyl cyclohexane isomer

$$conc = \frac{256581}{238861} \times \frac{50}{1} = 54.0$$



113

MS data file header from : >C9259::D5

Sample: 920045-01 CH#09 Operator: VOA2 REG. GRP. 2/05/92 0:19
Misc : ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

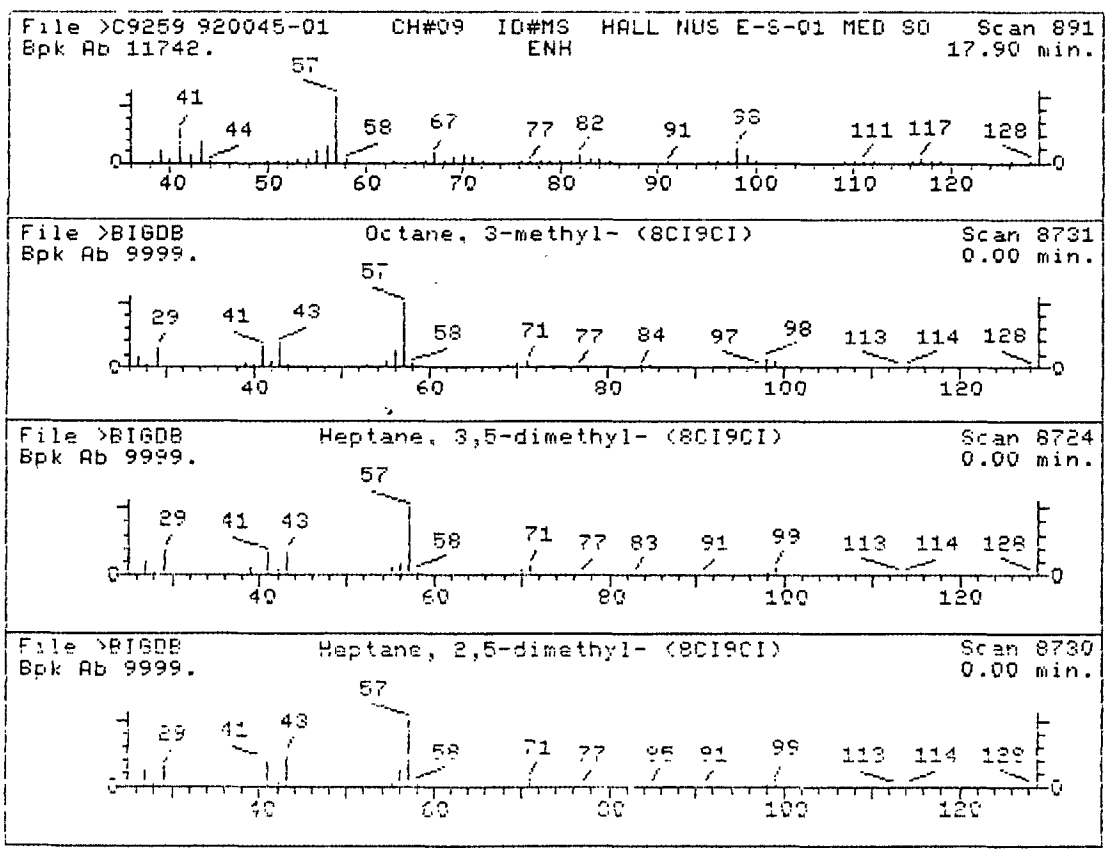
1. Octane, 3-methyl- (8CI9CI) 128 C9H20
2. Heptane, 3,5-dimethyl- (8CI9CI) 128 C9H20
3. Heptane, 2,5-dimethyl- (8CI9CI) 128 C9H20
4. Heptane, 3-ethyl- (8CI9CI) 128 C9H20
5. Heptane, 4-(1-methylethyl)- (9CI) 142 C10H22

Sample file: >C9259 Spectrum #: 891
Search speed: 2 Tilting option: S No. of ion ranges searched: 51

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	68*	2216333	8731	"BIGDB	46	38	0	0	100	21	30	57
2.	62*	926829	8724	"BIGDB	38	44	0	0	72	30	25	44
3.	53*	2216300	8730	"BIGDB	43	43	1	0	89	25	22	25
4.	48*	15869804	8564	"BIGDB	44	44	1	0	66	27	19	26
5.	44	52896874	8582	"BIGDB	40	43	0	0	76	27	19	22

C_9H_{20} isomer

$$conc = \frac{249752}{512791} \times 50 = 24.0$$



GMK

114

unknown JY

MS data file header from : >C9259::D5

Sample: 920045-01 CH#09 Operator: VOA2 REG. GRP. 2/05/92 0:19
Misc : ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

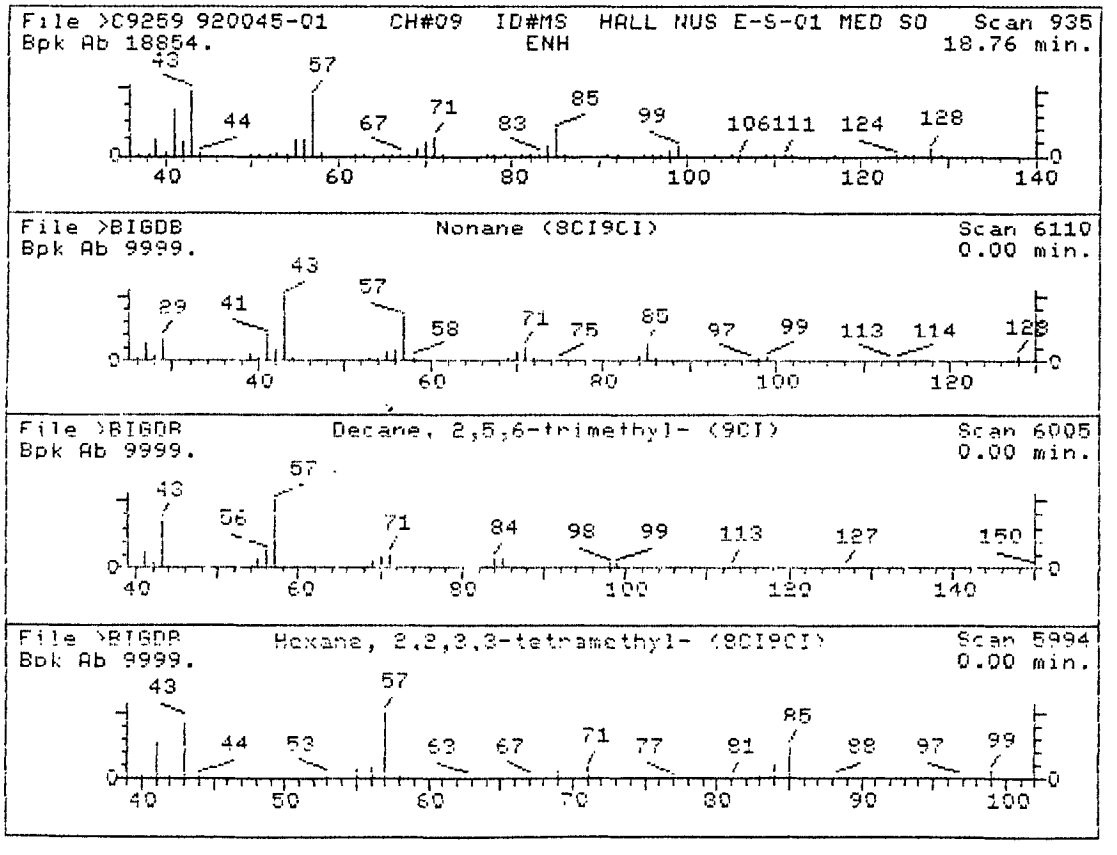
1. Nonane (8CI9CI) 128 C9H20
2. Decane, 2,5,6-trimethyl- (9CI) 184 C13H28
3. Hexane, 2,2,3,3-tetramethyl- (8CI9CI) 142 C10H22
4. Hexane, 3-ethyl-4-methyl- (8CI9CI) 128 C9H20
5. Octane, 3,5-dimethyl- (8CI9CI) 142 C10H22

Sample file: >C9259 Spectrum #: 935
Search speed: 2 Tilting option: S No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	111842	6110	"BIGDB	70	26	1	0	130	3	66	69
2.	53	62108230	6005	"BIGDB	66	35	1	0	92	21	22	25
3.	49	13475815	5994	"BIGDB	56	39	1	0	70	25	22	21
4.	49*	3074779	3606	"BIGDB	50	46	1	0	72	34	20	33
5.	46	15869939	3611	"BIGDB	50	43	0	0	81	31	16	29

Aliphatic hydrocarbon

$$\text{conc} = \frac{656525}{512791} \times \frac{50}{1} = 64$$



GMC

115.

unknown

JJ

MS data file header from : >C9259::D5

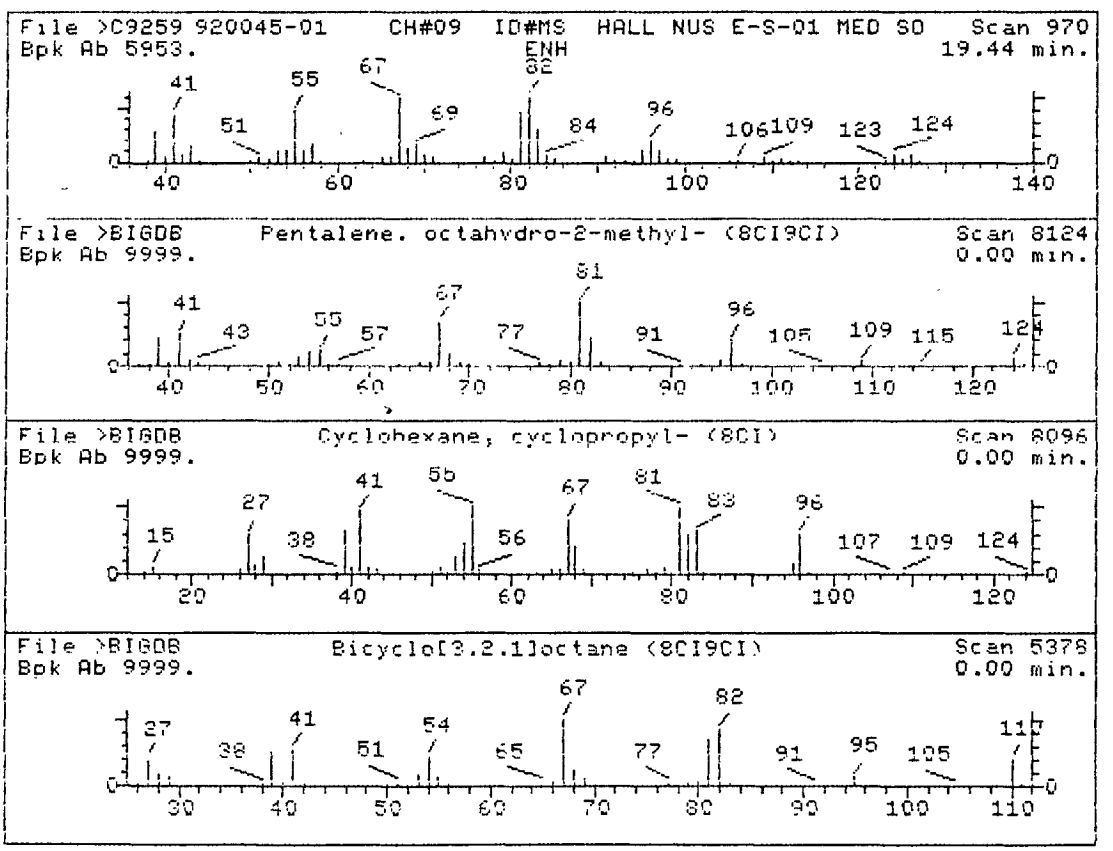
Sample: 920045-01 CH#09 Operator: VOA2 REG. GRP. 2/05/92 0:19
Misc : ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Pentalene, octahydro-2-methyl- (8CI9CI) 124 C9H16
2. Cyclohexane, cyclopropyl- (8CI) 124 C9H16
3. Bicyclo[3.2.1]octane (8CI9CI) 110 C8H14
4. 3,4-Nonadiene (9CI) 124 C9H16
5. Bicyclo[2.2.1]heptane (9CI) 96 C7H12

Sample file: >C9259 Spectrum #: 970
Search speed: 2 Tilting option: S No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	62*	3868642	8124	"BIGDB	59	52	0	0	77	50	20	72
2.	41*	32669866	8096	"BIGDB	57	64	2	0	55	44	14	34
3.	37	6221552	5378	"BIGDB	67	46	2	0	94	27	14	14
4.	30	37050036	5343	"BIGDB	48	43	1	0	98	45	8	18
5.	25*	279232	3266	"BIGDB	42	61	2	0	75	50	7	15



conc = 255142 / 512791 × 50/1

= 25.0

116

unknown

MS data file header from : >C9259::D5

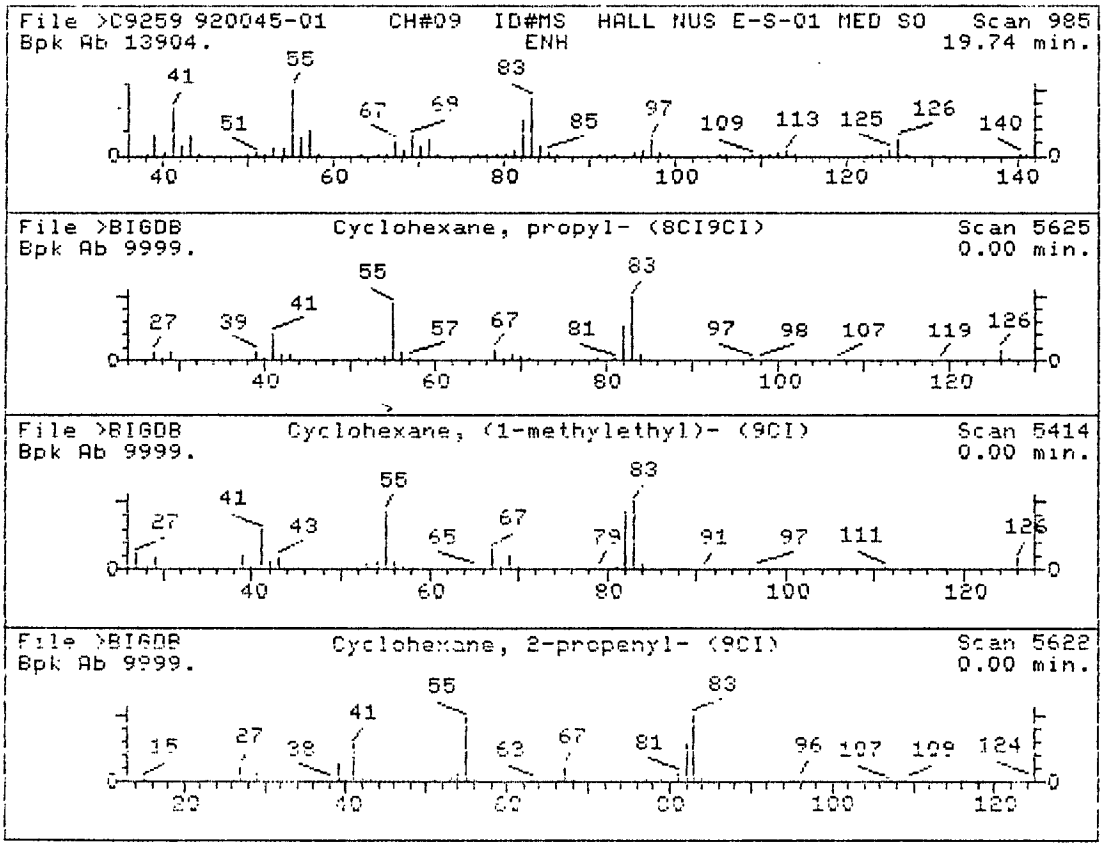
Sample: 920045-01 CH#09 Operator: VOA2 REG. GRP. 2/05/92 0:19
Misc : ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Cyclohexane, propyl- (8CI9CI) 126 C9H18
2. Cyclohexane, (1-methylethyl)- (9CI) 126 C9H18
3. Cyclohexane, 2-propenyl- (9CI) 124 C9H16
4. 2-Octenal, (E)- (8CI9CI) 126 C8H14O
5. Cyclopentane, 1-ethyl-1-methyl- (8CI9CI) 112 C8H16

Sample file: >C9259 Spectrum #: 985
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	58*	1678928	5625	"BIGDB	41	56	0	0	87	32	22	43
2.	42*	696297	5414	"BIGDB	36	67	0	0	61	38	17	31
3.	41	2114423	5622	"BIGDB	72	27	1	0	82	43	14	35
4.	36*	2548870	3627	"BIGDB	39	81	3	0	100	30	14	13
5.	30*	16747505	5582	"BIGDB	33	71	1	0	87	45	8	18



$$\text{conc} = \frac{862524}{512791} \times \frac{50}{1} = 84.0$$

117

unknown

MS data file header from : >C9259::D5

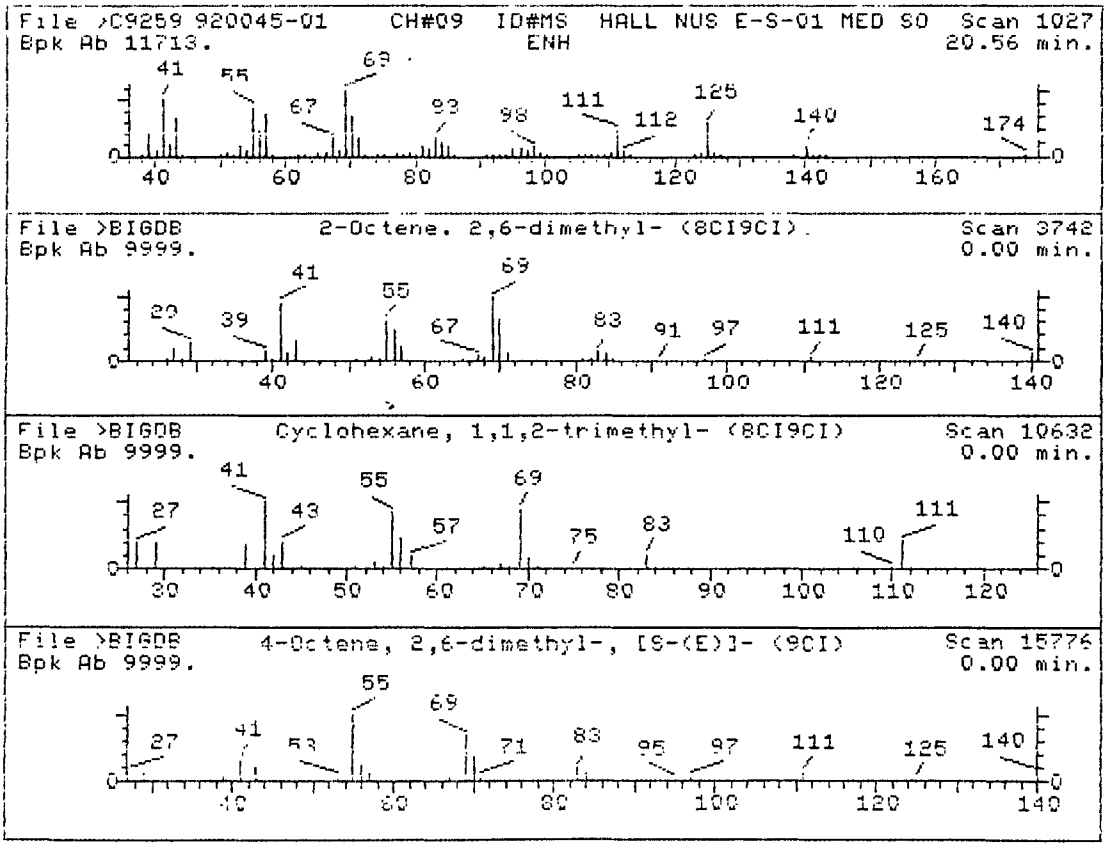
Sample: 920045-01 CH#09 Operator: VOA2 REG. GRP. 2/05/92 0:19
Misc : ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. 2-Octene, 2,6-dimethyl- (8CI9CI) 140 C10H20
2. Cyclohexane, 1,1,2-trimethyl- (8CI9CI) 126 C9H18
3. 4-Octene, 2,6-dimethyl-, [S-(E)]- (9CI) 140 C10H20
4. 4-Octene, 2,6-dimethyl-, [S-(Z)]- (9CI) 140 C10H20
5. 3-Octene, 2,6-dimethyl- (8CI9CI) 140 C10H20

Sample file: >C9259 Spectrum #: 1027
Search speed: 2 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	71*	4057425	3742	"BIGDB	51	53	0	0	80	28	29	61
2.	62*	7094260	10632	"BIGDB	56	52	0	0	83	41	18	67
3.	50*	62960763	15776	"BIGDB	42	58	1	0	120	25	22	22
4.	48*	62960774	3761	"BIGDB	36	63	1	0	120	25	17	19
5.	47*	6874288	3743	"BIGDB	59	49	2	0	103	40	17	36



Conc = $\frac{867312}{512791} \times 50$

= 85.0

118

unknown

MS data file header from : >C9259::D5

Sample: 920045-01 CH#09 Operator: VOA2 REG. GRP. 2/05/92 0:19
Misc : ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Benzene, propyl- (8CI9CI) 120 C9H12
2. Ethanol, 2-[(phenylmethyl)amino]- (9CI) 151 C9H13NO
3. 1,6-Heptadiyne (8CI9CI) 92 C7H8

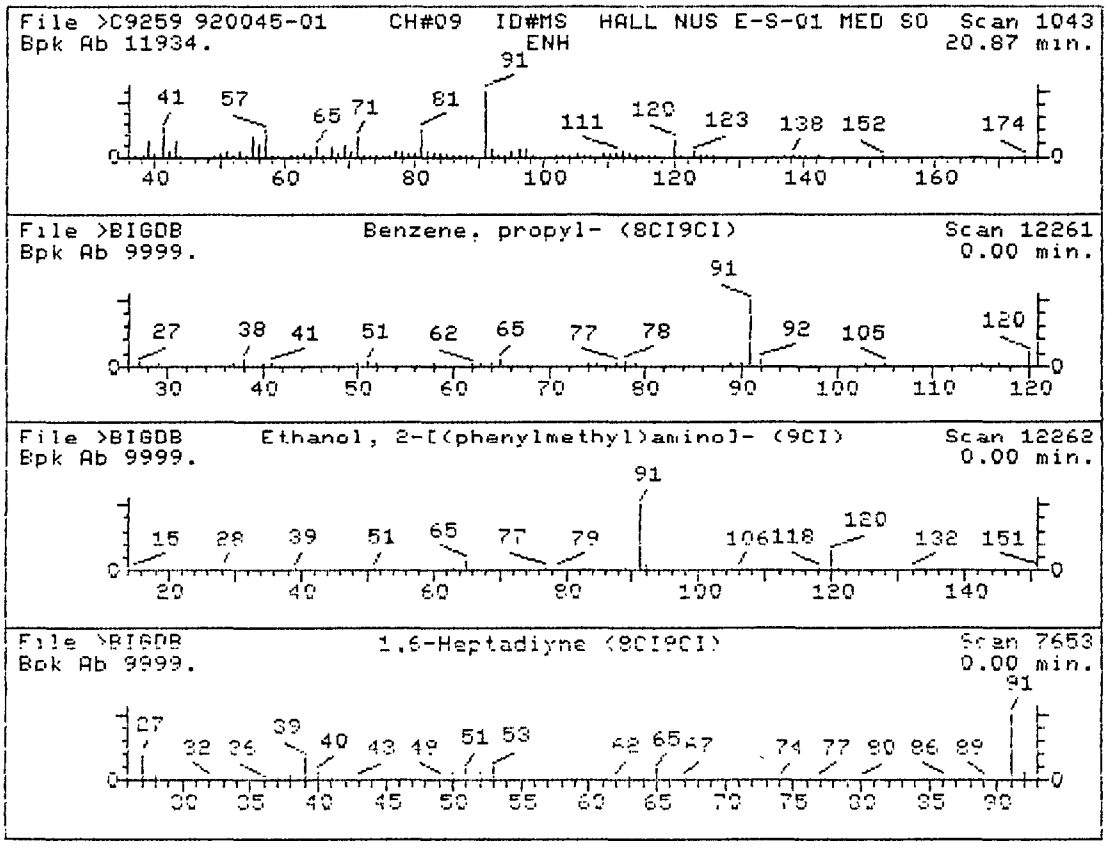
Sample file: >C9259 Spectrum #: 1043
Search speed: 2 Tilting option: S No. of ion ranges searched: 77

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	46*	103651	12261	"BIGDB	52	33	2	0	100	36	17	35
2.	26	104632	12262	"BIGDB	37	42	2	0	83	38	10	12
3.	25*	2396636	7653	"BIGDB	25	71	2	0	95	47	7	14

C3-benzene isomer

conc = $\frac{380275}{512791} \times 50$

= 37.0



MS data file header from : >C9259::D5

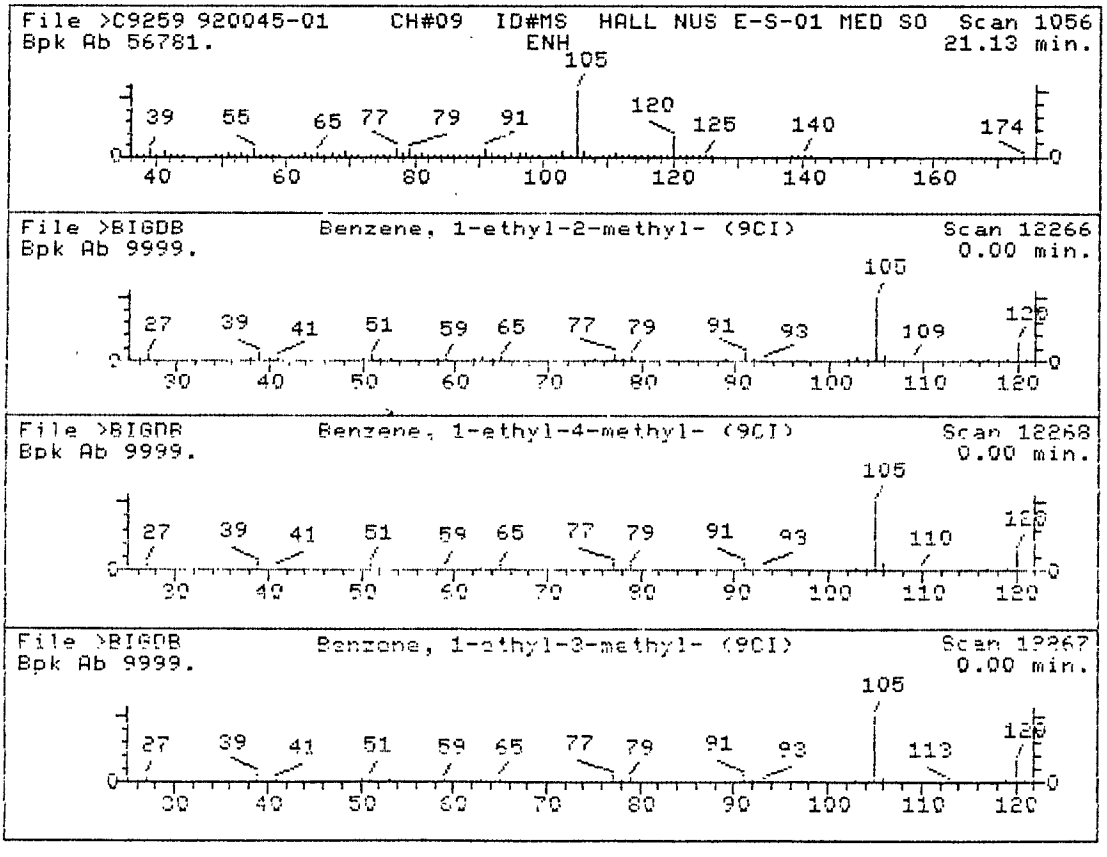
Sample: 920045-01 CH#09 Operator: VOA2 REG. GRP. 2/05/92 0:19
Misc : ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
2. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12
3. Benzene, 1-ethyl-3-methyl- (9CI) 120 C9H12
4. Benzene, (1-methylethyl)- (9CI) 120 C9H12
5. Benzene, 1,2,3-trimethyl- (8CI9CI) 120 C9H12

Sample file: >C9259 Spectrum #: 1056
Search speed: 2 Tilting option: S No. of ion ranges searched: 52

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	97*	611143	12266	"BIGDB	85	0	0	0	100	8	68	97
2.	97*	622968	12268	"BIGDB	84	1	0	0	96	8	68	97
3.	97*	620144	12267	"BIGDB	80	7	0	0	76	8	68	97
4.	84*	98828	12259	"BIGDB	64	23	1	0	84	10	55	67
5.	58*	526738	12280	"BIGDB	54	31	1	0	44	39	19	49



C_3-benzene isomer

$$\text{conc} = \frac{1455419}{512791} \times \frac{50}{1}$$

$= 142.0$

C_3-alkyl benzene isomer

120

MS data file header from : >C9259::D5

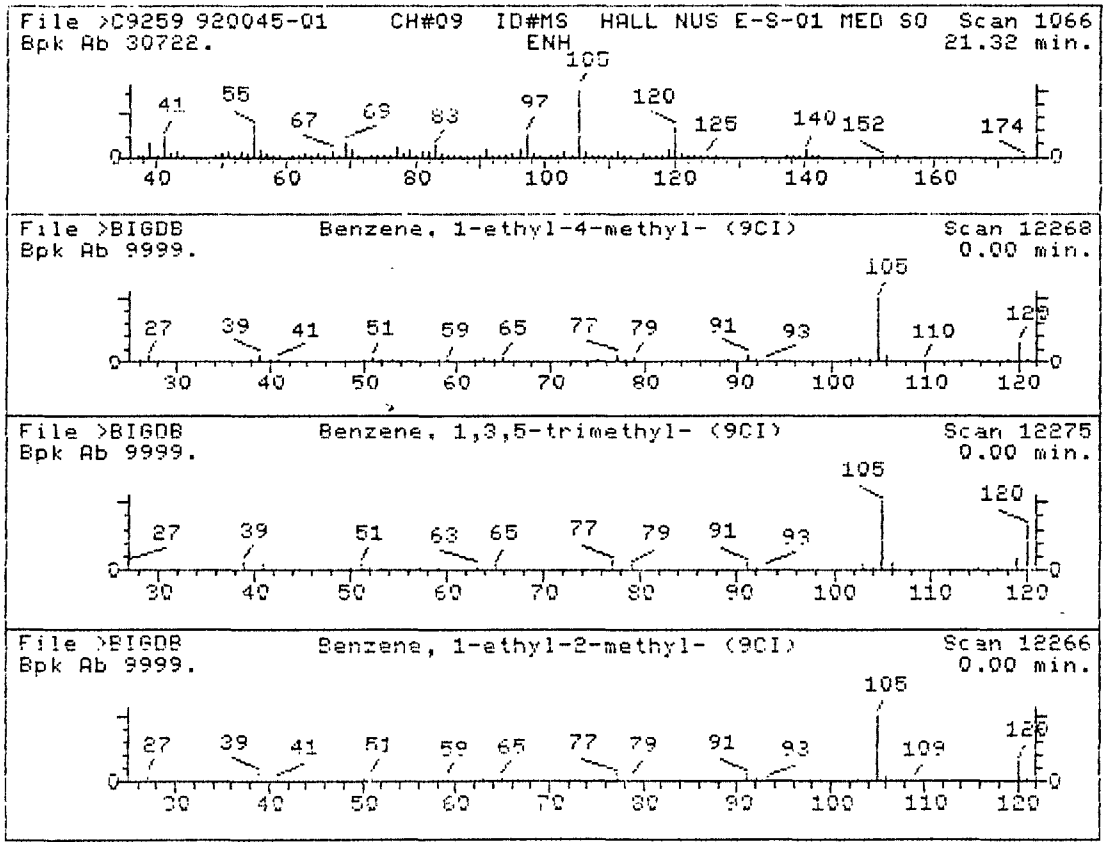
Sample: 920045-01 CH#09 Operator: VOA2 REG. GRP. 2/05/92 0:19
Misc : ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12
2. Benzene, 1,3,5-trimethyl- (9CI) 120 C9H12
3. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
4. Benzene, 1-ethyl-3-methyl- (9CI) 120 C9H12
5. 1,3-Cyclopentadiene, 5-(1-methylpropylidene)- (9CI) 120 C9H12

Sample file: >C9259 Spectrum #: 1066
Search speed: 2 Tilting option: S No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	76*	622968	12268	"BIGDB	64	21	0	0	85	45	33	83
2.	73*	108678	12275	"BIGDB	77	11	2	0	69	30	37	71
3.	69*	611143	12266	"BIGDB	66	19	1	0	89	45	24	76
4.	65*	620144	12267	"BIGDB	66	21	1	0	89	44	24	72
5.	36*	3141024	12286	"BIGDB	34	70	3	0	72	30	14	13



conc = $\frac{1326323}{512791} \times 50$

= 129.0

C_3-alkyl benzene isomer

MS data file header from : >C9259::D5

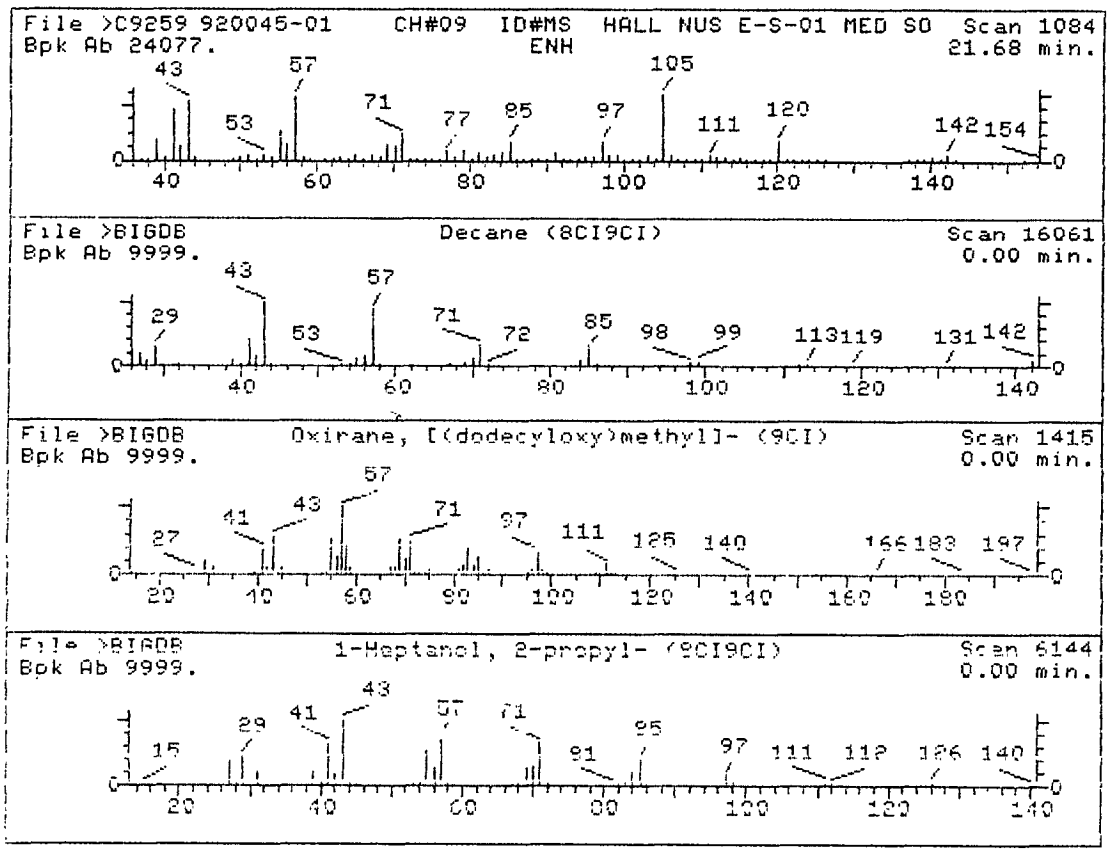
Sample: 920045-01 CH#09 Operator: VOA2 REG. GRP. 2/05/92 0:19
Misc : ID#MS HALL NUS E-S-01 MED SOIL 4G/10MLX100UL LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Decane (8CI9CI)	142	C10H22
2. Oxirane, [(dodecyloxy)methyl]- (9CI)	242	C15H30O2
3. 1-Heptanol, 2-propyl- (8CI9CI)	158	C10H22O
4. Hexane, 3,3-dimethyl- (8CI9CI)	114	C8H18
5. Benzene, 1-ethyl-2-methyl- (9CI)	120	C9H12

Sample file: >C9259 Spectrum #: 1084
Search speed: 2 Tilting option: S No. of ion ranges searched: 77

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	68*	124185	16061	"BIGDB	59	41	0	0	90	38	28	72
2.	37	2461189	1415	"BIGDB	80	67	3	0	80	26	14	14
3.	36	10042598	6144	"BIGDB	66	43	1	0	60	38	14	23
4.	35	563166	5991	"BIGDB	45	45	0	0	78	43	12	26
5.	34*	611143	12266	"BIGDB	85	0	0	2	88	66	11	94



conc = $\frac{1622090 \times 50}{512792}$

= 158.0

unknown

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-S-02

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-02

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C9269

Level: (low/med) MED Date Received: 02/01/92

% Moisture: not dec. 12 Date Analyzed: 02/05/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1400	U
74-83-9	Bromomethane	1400	U
75-01-4	Vinyl Chloride	1400	U
75-00-3	Chloroethane	1400	U
75-09-2	Methylene Chloride	390	J
67-64-1	Acetone	1400	U
75-15-0	Carbon Disulfide	1400	U
75-35-4	1,1-Dichloroethene	1400	U
75-34-3	1,1-Dichloroethane	1400	U
540-59-0	1,2-Dichloroethene (total)	1400	U
67-66-3	Chloroform	1400	U
107-06-2	1,2-Dichloroethane	1400	U
78-93-3	2-Butanone	1400	U
71-55-6	1,1,1-Trichloroethane	7600	
56-23-5	Carbon Tetrachloride	1400	U
75-27-4	Bromodichloromethane	1400	U
78-87-5	1,2-Dichloropropane	1400	U
10061-01-5	cis-1,3-Dichloropropene	1400	U
79-01-6	Trichloroethene	180	J
124-48-1	Dibromochloromethane	1400	U
79-00-5	1,1,2-Trichloroethane	1400	U
71-43-2	Benzene	1500	
10061-02-6	trans-1,3-Dichloropropene	1400	U
75-25-2	Bromoform	1400	U
108-10-1	4-Methyl-2-Pentanone	64000	E
591-78-6	2-Hexanone	1400	U
127-18-4	Tetrachloroethene	140	J
79-34-5	1,1,2,2-Tetrachloroethane	1400	U
108-88-3	Toluene	11000	
108-90-7	Chlorobenzene	1400	U
100-41-4	Ethylbenzene	8700	
100-42-5	Styrene	1400	U
1330-20-7	Xylene (total)	69000	E

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-02

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-02

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C9269

Level: (low/med) MED Date Received: 02/01/92

% Moisture: not dec. 12 Date Analyzed: 02/05/92

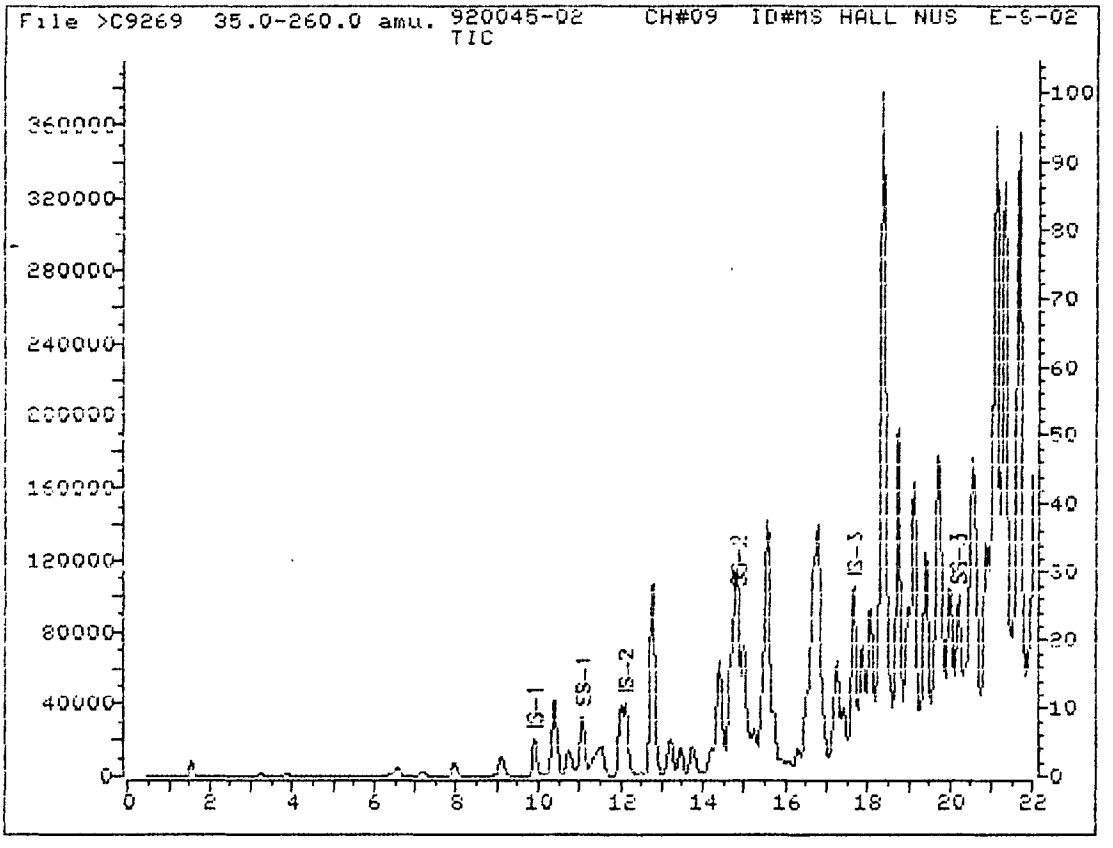
GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 15

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	Unknown	9.11	5300	J
2. 000000	Unknown	12.78	23000	J
3. 000000	Aliphatic hydrocarbon	14.40	9800	J
4. 000000	Aliphatic hydrocarbon	15.56	29000	J
5. 000000	Unknown	16.69	12000	J
6. 000000	Trimethylcyclohexane isomer	17.24	13000	J
7. 000000	Aliphatic hydrocarbon	18.75	12000	J
8. 000000	C9H18 isomer	19.00	5000	J
9. 000000	Unknown	19.41	6800	J
10. 000000	C9H18 isomer	19.71	15000	J
11. 000000	Unknown	20.53	16000	J
12. 000000	C3-benzene isomer	20.86	7200	J
13. 000000	C3-benzene isomer	21.10	31000	J
14. 000000	C3-benzene isomer	21.30	27000	J
15. 000000	C3-benzene isomer	21.65	26000	J



MS data file header from : >C9269::D5

Sample: 920045-02 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:09
Misc : ID#MS HALL NUS E-S-02 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

Operator ID: VOA2 Quant Rev: 7 Quant Time: 920205 23:40
Output File: ^C9269::QT Injected at: 920205 23:09
Data File: >C9269::DD Dilution Factor: 1.00000
Name: 920045-02 CN#09 Instrument ID: MS3
Misc: ID#MS HALI MUS E-5-02 MED SOIL 4G/10ML/100UL+IS LH

TD File: 031D::SC
Title: VOLATILE ANALYSIS CLP-TCL DB624 30Mx0.531Dx3uM ID#MS3
Last Calibration: 910429 11:21 Last Qcal Time: 920205 21:45

		Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01	Bromochloromethane	9.91	128.0	26741	50.00	UG/L	83
6)	C030	Methylene Chloride	6.47	84.0	2013	2.77	UG/L	48
12)	C060	Chloroform	10.42	83.0	1782	829	UG/L	98
13)	CS15	1,2-Dichloroethane-d4	11.08	65.0	45557	54.45	UG/L 109%	97
16)	*CI10	1,4-Difluorobenzene	12.12	114.0	110065	50.00	UG/L	100
17)	C115	1,1,1-Trichloroethane	10.38	97.0	86709	53.22	UG/L	81
18)	C120	Carbon Tetrachloride Ratio off	10.36	117.0	11611	6.72	UG/L	88
22)	C150	Trichloroethene	12.49	130.0	1653	1.28	UG/L	87
25)	C165	Benzene	11.10	78.0	15044	10.41	UG/L	100
26)	C145	cis-1,3-Dichloropropene Ratio off	14.97	75.0	1241	1.46	UG/L	98
28)	*CI20	Chlorobenzene-d5	17.67	117.0	96498	50.00	UG/L	97
30)	C205	4-Methyl-2-Pentanone Ratio off	14.40	43.0	61267	454.41	UG/L	51
31)	C220	Tetrachloroethene	16.01	164.0	1620	1.02	UG/L	95
33)	C250	Toluene	14.97	91.0	177136	77.86	UG/L	96
34)	CS05	Toluene d-8	14.85	98.0	113285	55.65	UG/L 111%	96
35)	C235	Chlorobenzene Ratio off	17.65	112.0	2202	1.06	UG/L	77
36)	C240	Ethylbenzene	18.08	106.0	52146	61.29	UG/L	95
38)	C250	Total Xylenes	18.36	106.0	4779e2M	482.85	UG/L	94
39)	CS10	Bromofluorobenzene	20.20	95.0	61342	39.73	UG/L 79%	92

* Compound is ISTD

Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures : 0. 110. 170. 0. 0.
Chromatographic times, min. : 5.0 0.0 15.0 0.0 0.0
Chromatographic rate, deg/min: 6.0 50.0 0.0 1.5 0.0

>C9269 920045-02 CH#09 ID#MS HALL NUS E-S-02 MED SOIL 4G/1

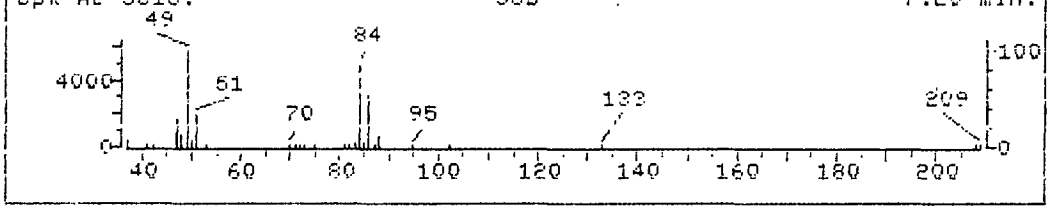
35.0| 260.0 TIC
Upslope: .2000 Area Reject:10.00 % Max Peaks: 23 Bunch: 1 Valley >100 %
Dnslope: 0.0000 Results File VDIR87 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
~~1~~	~~10.40~~	~~400~~	~~500~~						
11	12.78	621	631	643	105512	909266	882814	21.89	2.345
12	~~13.21~~	643	653	659	19834	200216	180979	4.49	.481
13	~~13.45~~	659	665	673	14245	140435	108482	2.69	.288
14	~~13.74~~	673	680	694	15337	189181	141249	3.50	.375
15	~~14.21~~	695	704	706	12905	125475	92689	2.30	.246
16	14.40	706	714	721	49285	637250	384118*	9.53	1.020
17	~~14.81~~	721	735	740	100960	1614320	1286341	31.90	3.417
18	~~14.97~~	741	743	753	52711	619160	328681*	8.15	.873
19	15.56	761	773	789	133280	1739912	1432593	35.52	3.805
20	~~16.30~~	805	811	815	9107	135578	61402	1.52	.163
	~~16.69~~								
21	~~16.77~~	815	835	849	129319	2580113	2150905*	53.34	5.713
22	17.24	849	859	865	53531	719354	516040	12.80	1.371
23	~~17.67~~	874	881	886	84995	887139	602304	14.94	1.600
24	~~17.87~~	886	891	896	48722	676734	373411*	9.26	.992
25	~~18.08~~	897	902	908	64323	855591	472655*	11.72	1.255
26	~~18.36~~	908	916	930	345764	3831242	2926060*	72.56	7.772
27	18.75	930	936	942	154937	1516501	972676	24.12	2.584
28	19.00	942	949	951	52832	824068	386156	9.58	1.026
29	~~19.12~~	951	955	963	126371	1338256	817556	20.27	2.172
30	19.41	963	970	977	88087	1225721	618232	15.33	1.642
31	19.71	977	985	994	137181	2092844	1273435	31.58	3.382
32	~~19.98~~	994	999	1006	49975	1108580	336912	8.35	.895
33	~~20.20~~	1006	1010	1016	44929	912669	254665	6.31	.676
34	20.53	1020	1027	1038	131733	2289492	1323922	32.83	3.517
35	20.86	1038	1044	1047	85103	1100253	617202	15.30	1.639
36	21.10	1049	1056	1061	278330	3396627	2266071*	56.19	6.019
37	~~21.30~~	1061	1066	1077	251911	3307840	1842255	45.68	4.893
38	21.65	1077	1084	1094	300793	3358070	2231123	55.33	5.926
	9.11	424	443	466	10376	116588	112110		
	16.69	824	831	832	73729	899794	463379		

15 HC

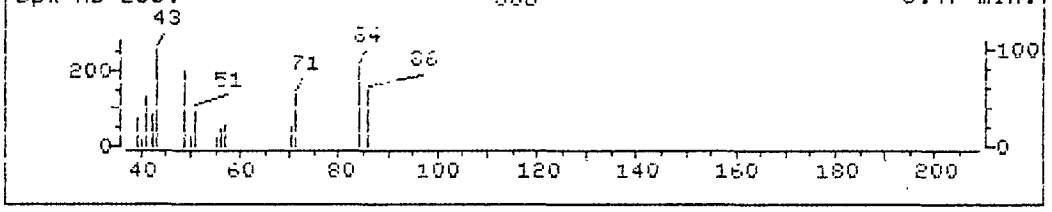
REFERENCE STANDARD SPECTRUM

File >BB003 C030 Methylene Chloride 911119 12:56 Scan 317
Bpk Ab 5816. SUB 7.20 min.



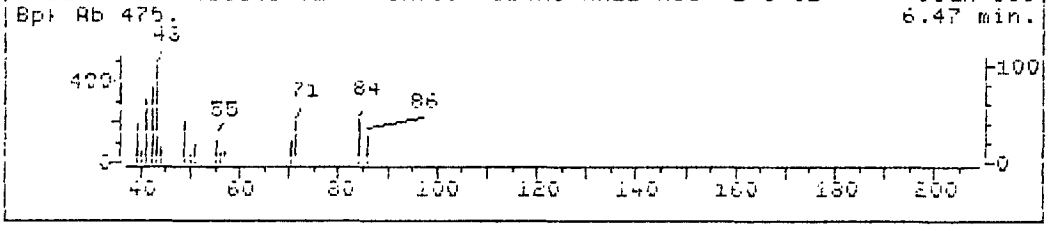
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

File >C9269 920045-02 CH#09 ID#MS HALL NUS E-S-02 Scan 308
Bpk Ab 258. SUB 6.47 min.



SAMPLE SPECTRUM (UNALTERED)

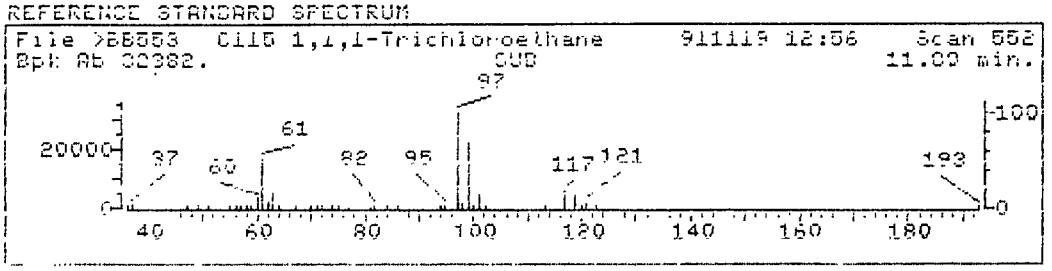
File >C9269 920045-02 CH#09 ID#MS HALL NUS E-S-02 Scan 308
Bpk Ab 475. 6.47 min.



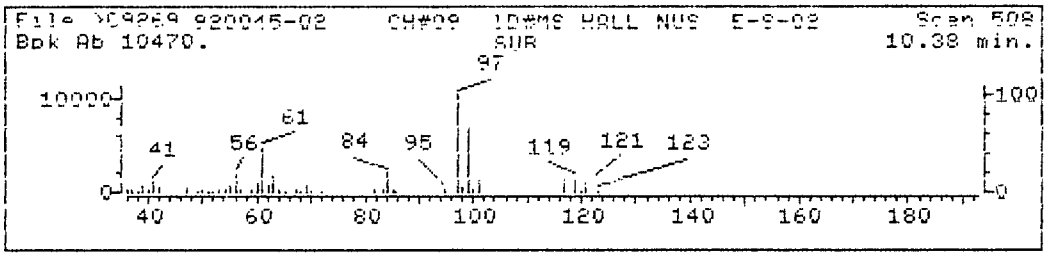
Data File: >C9269::D5 Quant Output File: ^L9269::QT
Name: 920045-02 CH#09 Instrument ID: MS5
Misc: ID#MS HALL NUS E-S-02 MLD SOIL 4G/10MLX100UL+1S LH
Quant Time: 920205 23:40 Quant ID File: V31D::SC
Injected at: 920205 23:09 Last Calibration: 910429 11:21
Last Qcal Time: 920205 21:45

Compound No : 6
Compound Name : C030 Methylene Chloride
Scan Number : 308
Retention Time: 6.47 min.
Quant Ion : 84.0
Area : 2013
Concentration : 2.77 UG/L
q-value : 48

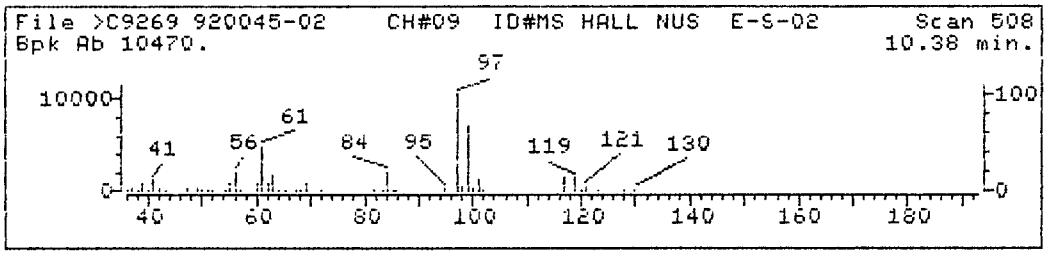
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



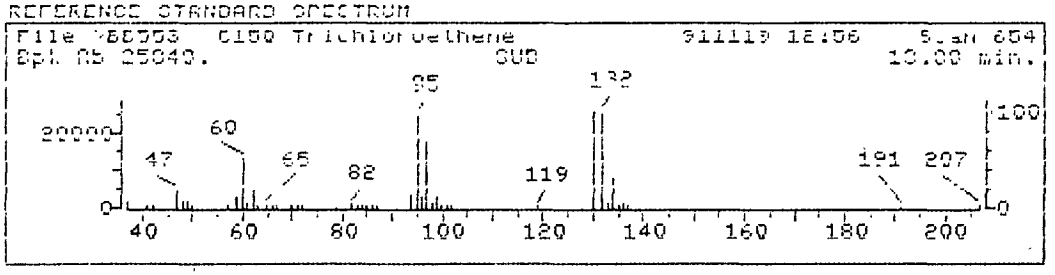
SAMPLE SPECTRUM (UNALTERED)



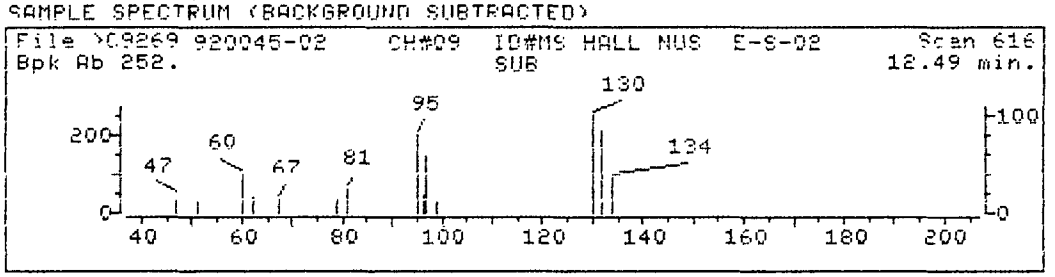
Data File: >C9269::D5 Quant Output File: ^C9269::QT
Name: 920045-02 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-02 MED SOIL 4G/10MLX100UL+1S LH
Quant Time: 920205 23:40 Quant ID File: V3ID::SC
Injected at: 920205 23:09 Last Calibration: 910429 11:21
Last Qcal Time: 920205 21:45

Compound No : 17
Compound Name : C115 1,1,1-Trichloroethane
Scan Number : 508
Retention Time: 10.38 min.
Quant Ion : 97.0
Area : 86709
Concentration : 53.22 UG/L
q-value : 81

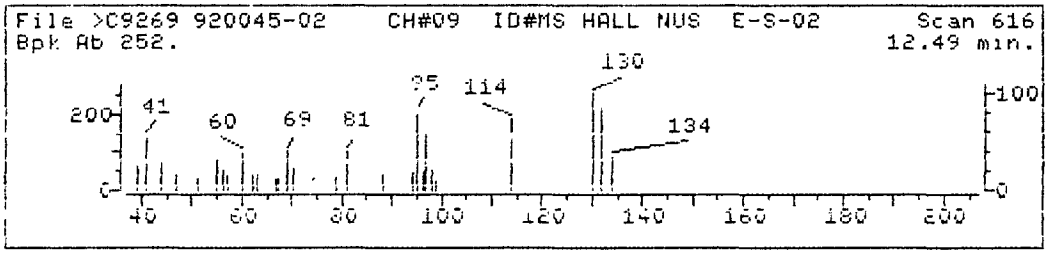
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



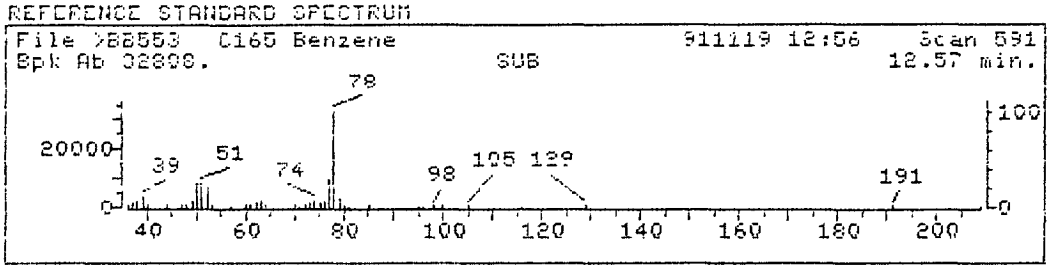
SAMPLE SPECTRUM (UNALTERED)



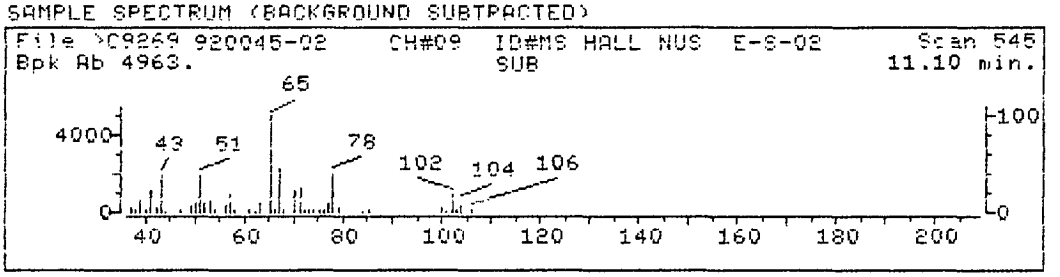
Data File: >C9269::D5 Quant Output File: ^C9269::QT
Name: 920045-02 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-02 MED SOIL 46/10MLX100UL+1S LH
Quant Time: 920205 23:40 Quant ID File: V31D::SC
Injected at: 920205 23:09 Last Calibration: 910429 11:21
Last Qcal Time: 920205 21:45

Compound No : 22
Compound Name : C150 Trichloroethene
Scan Number : 616
Retention Time: 12.49 min.
Quant Ion : 130.0
Area : 1653
Concentration : 1.28 UG/L
q-value : 87

REFERENCE STANDARD SPECTRUM



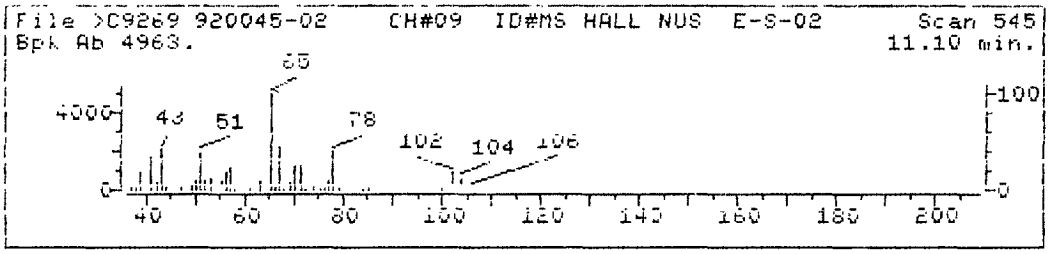
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



m/z 65, 67 from 1,2-dichloroethane-d4

9/1 C

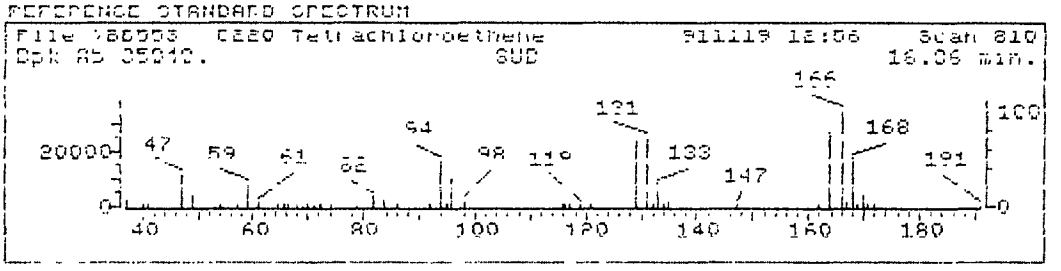
SAMPLE SPECTRUM (UNALTERED)



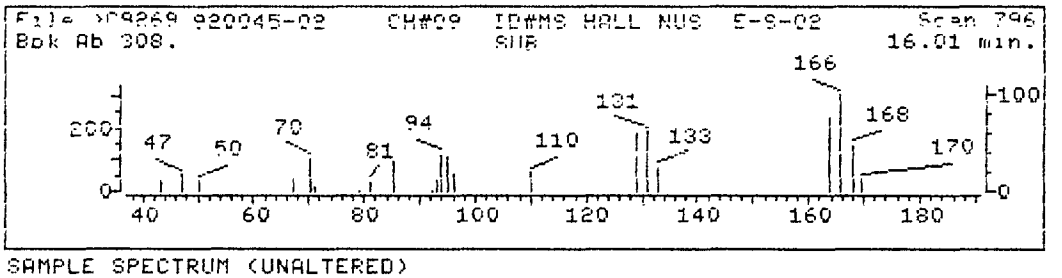
Data File: >C9269::D5 Quant Output File: ^C9269::QT
Name: 920045-02 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-02 MED SOIL 4G/10ML X100UL+IS LH
Quant Time: 920205 23:40 Quant ID File: V3ID::SC
Injected at: 920205 23:09 Last Calibration: 910429 11:21
Last Qcal Time: 920205 21:45

Compound No : 25
Compound Name : C165 Benzene
Scan Number : 545
Retention Time: 11.10 min.
Quant Ion : 78.0
Area : 15044
Concentration : 10.41 UG/L
q-value : 100

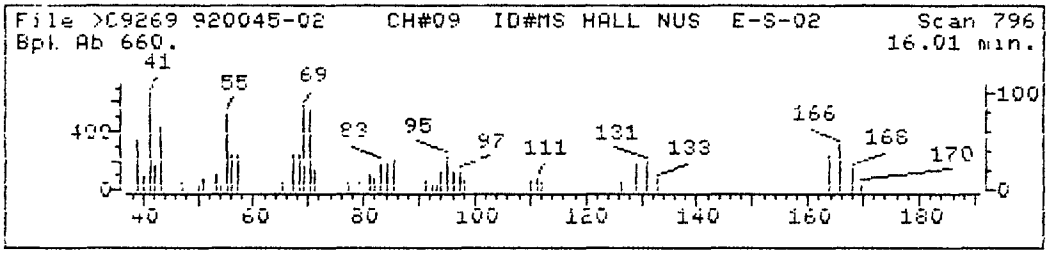
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



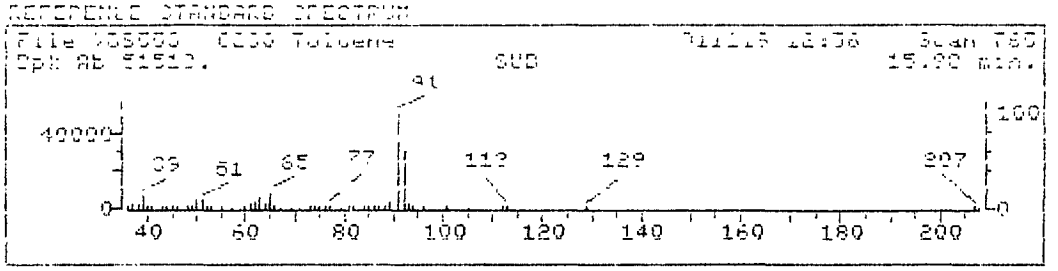
SAMPLE SPECTRUM (UNALTERED)



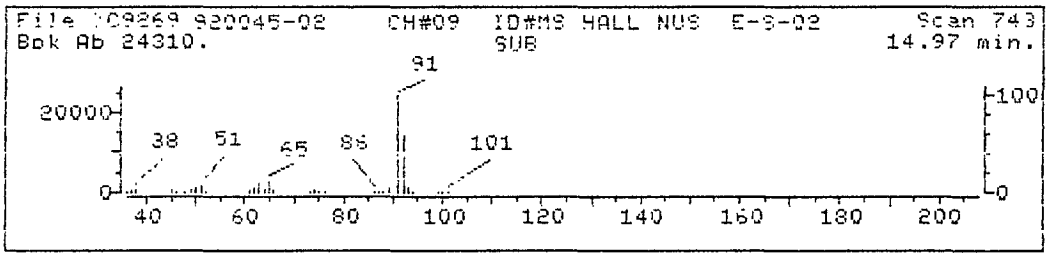
Data File: >C9269::05 Quant Output File: 'C9269::QT
Name: 920045-02 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-02 MLD SOIL 4G/10MLX100UL+1S LH
Quant Time: 920205 23:40 Quant ID File: V51D::SC
Injected at: 920205 23:09 Last Calibration: 910429 11:21
Last Qcal Time: 920205 21:45

Compound No : 31
Compound Name : C220 Tetrachloroethene
Scan Number : 796
Retention Time: 16.01 min.
Quant Ion : 164.0
Area : 1620
Concentration : 1.02 UG/L
q-value : 95

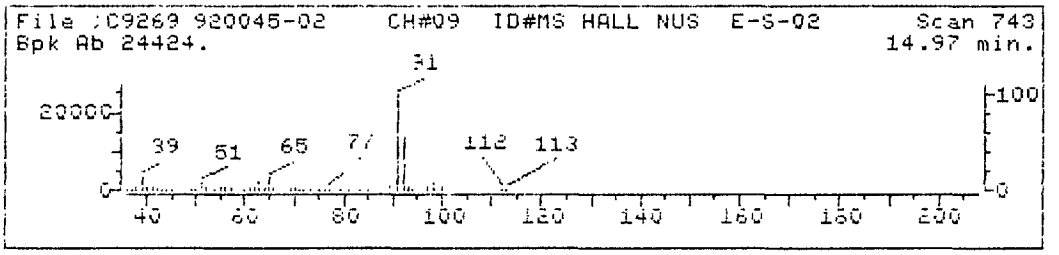
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



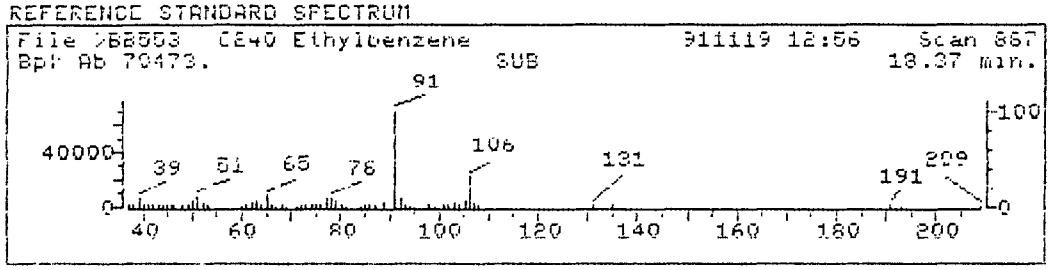
SAMPLE SPECTRUM (UNALTERED)



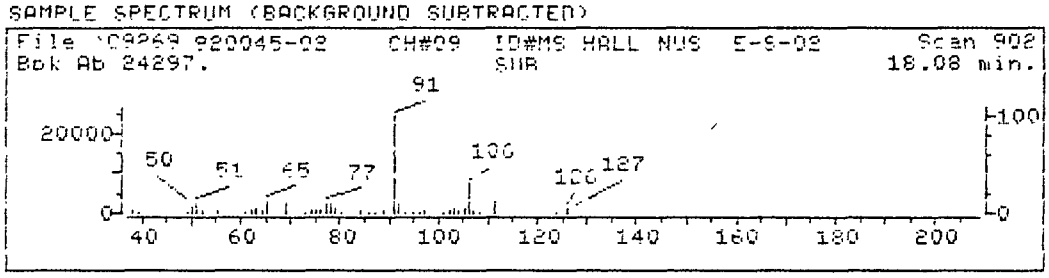
Data File: :C9269::09 Quant Output File: ^C9269::QT
Name: 920045-02 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-02 MFD SOIL 46/10MLX100UL*1% LH
Quant Time: 920205 23:40 Quant ID File: V510::SC
Injected at: 920205 23:09 Last Calibration: 910429 11:21
~ Last Qcal Time: 920205 21:45

Compound No : 33
Compound Name : C230 Toluene
Scan Number : 743
Retention Time: 14.97 min.
Quant Ion : 91.0
Area : 177156
Concentration : 77.86 UG/L
q-value : 96

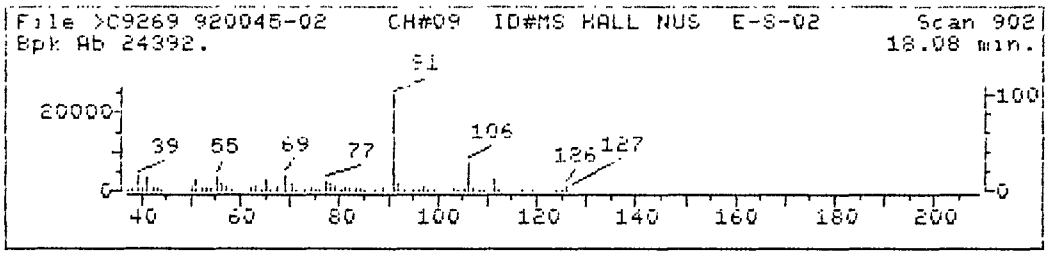
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



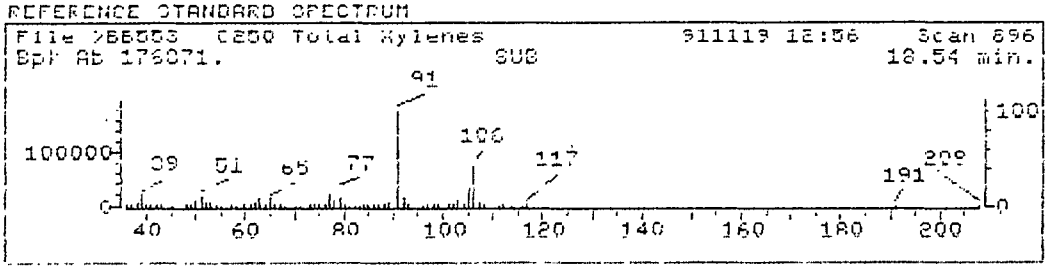
SAMPLE SPECTRUM (UNALTERED)



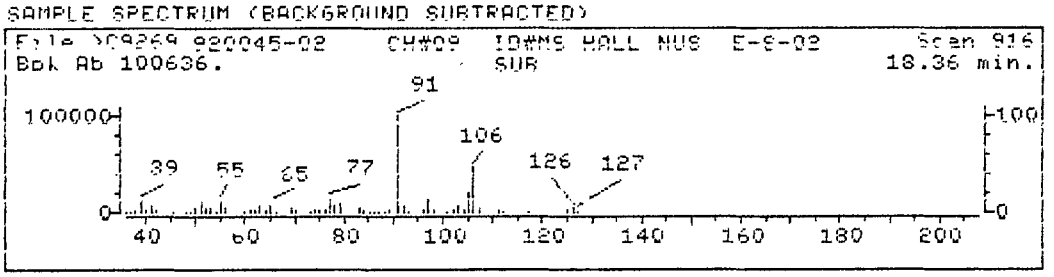
Data File: ^C9269::D5 Quant Output File: ^C9269::QT
Name: 920045-02 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-02 MED SOIL 4G/10MLX100UL+IS LH
Quant Time: 920205 23:40 Quant ID File: U3ID::SC
Injected at: 920205 23:09 Last Calibration: 910429 11:21
Last Qcal Time: 920205 21:45

Compound No : 36
Compound Name : C240 Ethylbenzene
Scan Number : 902
Retention Time: 18.08 min.
Quant Ion : 106.0
Area : 52146
Concentration : 61.29 UG/L
q-value : 95

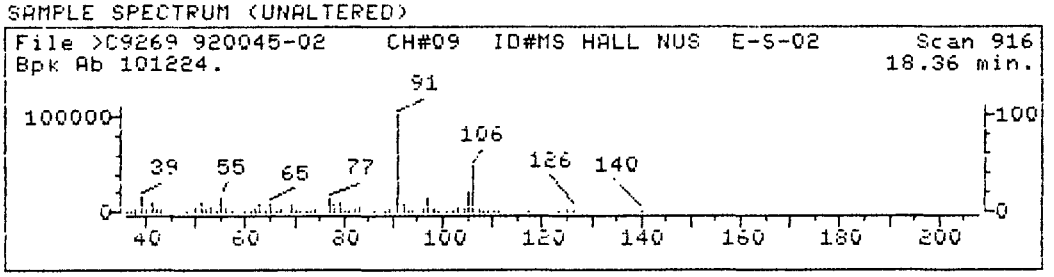
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >C9269::D5 Quant Output File: ^C9269::QT
Name: 920045-02 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-02 MED SUIL 4G/10MLX100UL+IS LH
Quant Time: 920205 23:40 Quant ID File: V3ID::SC
Injected at: 920205 23:09 Last Calibration: 910429 11:21
Last Qcal Time: 920205 21:45

Compound No : 98
Compound Name : C250 Total Xylenes
Scan Number : 916
Retention Time: 18.36 min.
Quant Ion : 106.0
Area : 477962M
Concentration : 482.85 UG/L
q-value : 94

MS data file header from : >C9269::D5

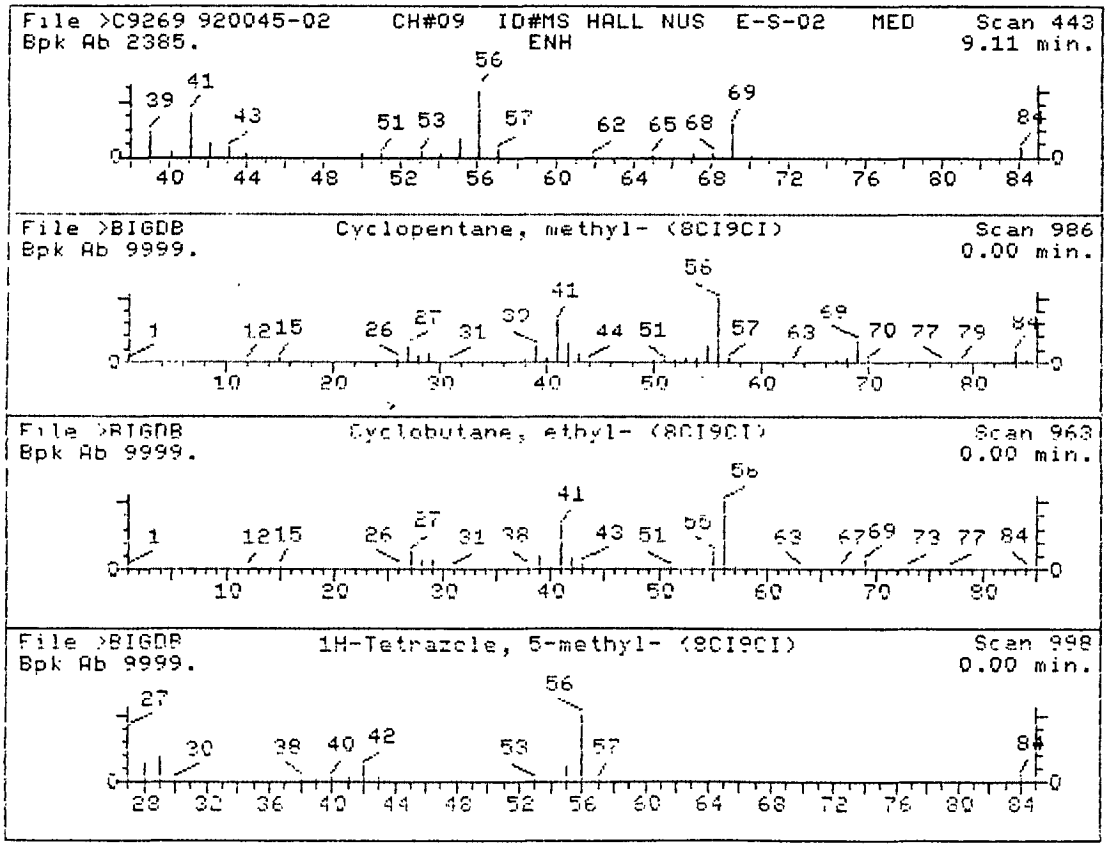
Sample: 920045-02 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:09
Misc : ID#MS HALL NUS E-S-02 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Cyclopentane, methyl- (8CI9CI) 84 C6H12
2. Cyclobutane, ethyl- (8CI9CI) 84 C6H12
3. 1H-Tetrazole, 5-methyl- (8CI9CI) 84 C2H4N4
4. Cyclopropane, (1-methylethyl)- (9CI) 84 C6H12
5. 1-Pentene, 2-methyl- (8CI9CI) 84 C6H12

Sample file: >C9269 Spectrum #: 443
Search speed: 2 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	76*	96377	986	"BIGDB	49	38	0	0	76	13	40	59
2.	68*	4806615	963	"BIGDB	40	43	0	0	100	25	30	50
3.	63*	4076362	998	"BIGDB	33	51	0	0	82	18	30	30
4.	40*	3638355	962	"BIGDB	24	59	0	0	91	30	14	17
5.	25*	763291	995	"BIGDB	27	59	0	0	45	48	7	19



conc = 112110 / 150655 × 50 = 37.0

136

unknown

MS data file header from : >C9269::D5

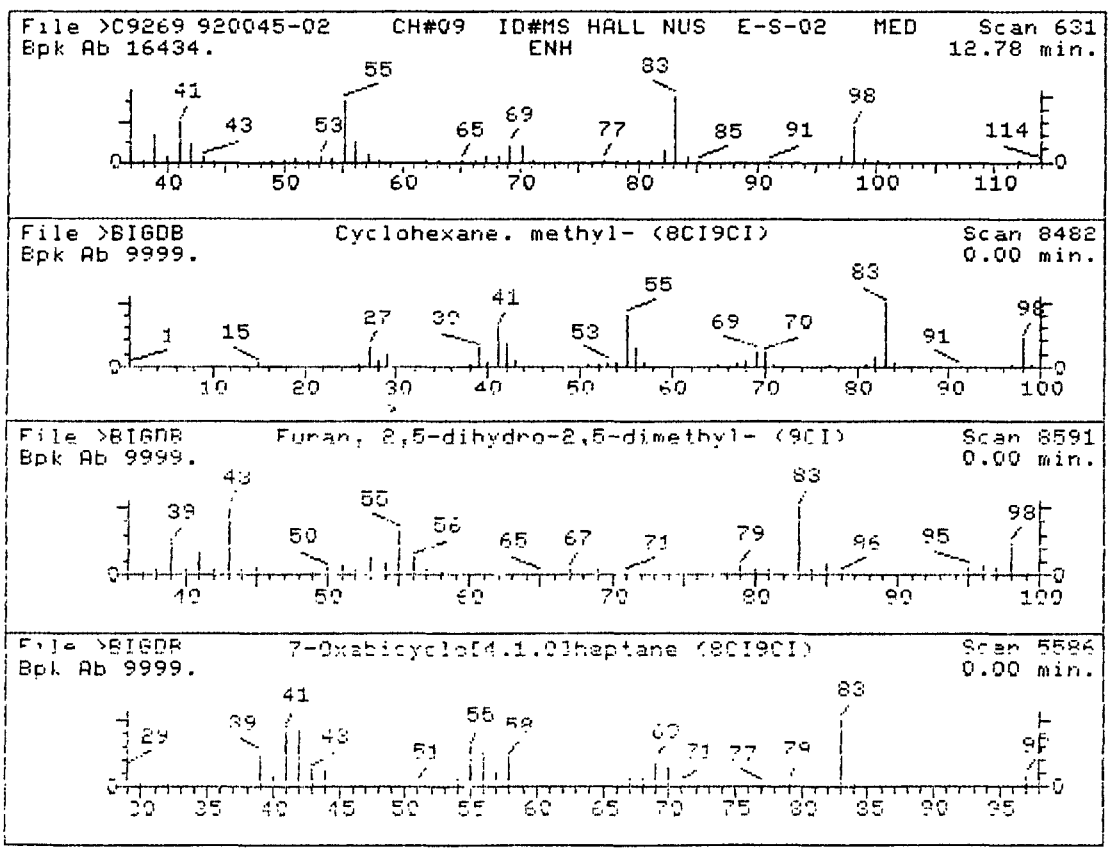
Sample: 920045-02 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:09
Misc : ID#MS HALL NUS E-S-02 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Cyclohexane, methyl- (8CI9CI) 98 C7H14
2. Furan, 2,5-dihydro-2,5-dimethyl- (9CI) 98 C6H10O
3. 7-Oxabicyclo[4.1.0]heptane (8CI9CI) 98 C6H10O
4. 1H-Pyrazole, 4,5-dihydro-4,5-dimethyl- (9CI) 98 C5H10N2
5. 2-Pentene, 3,4-dimethyl-, (Z)- (8CI9CI) 98 C7H14

Sample file: >C9269 Spectrum #: 631
Search speed: 2 Tilting option: S No. of ion ranges searched: 44

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	81*	108872	8482	"BIGDB	77	26	1	0	95	19	45	74
2.	52*	59242272	8591	"BIGDB	45	60	3	0	89	18	20	13
3.	52*	286204	5586	"BIGDB	29	86	3	0	85	20	20	13
4.	48*	28019945	8525	"BIGDB	51	42	2	0	100	33	20	32
5.	47*	4914914	5595	"BIGDB	48	50	0	0	82	50	13	57



conc = 882814 x 50 / 277509

= 159.0

137

unknown

MS data file header from : >C9269::D5

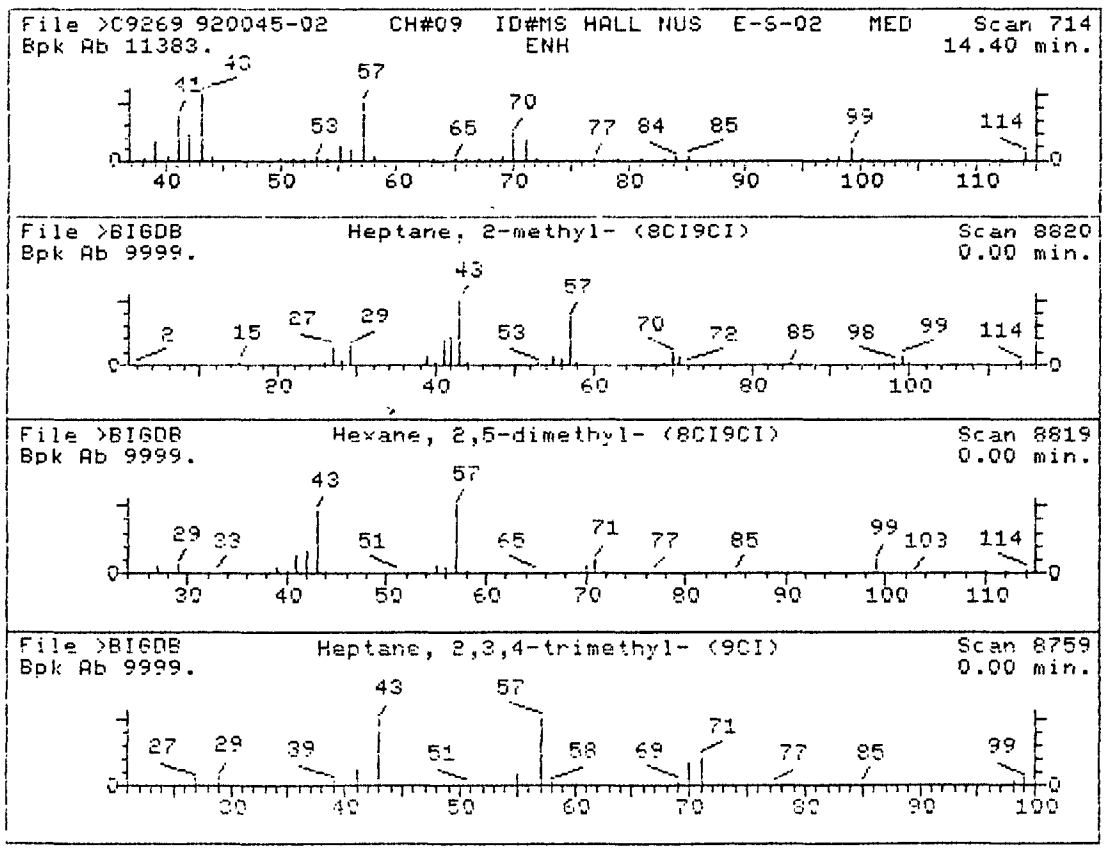
Sample: 920045-02 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:09
Misc : ID#MS HALL NUS E-S-02 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Heptane, 2-methyl- (8CI9CI) 114 C8H18
2. Hexane, 2,5-dimethyl- (8CI9CI) 114 C8H18
3. Heptane, 2,3,4-trimethyl- (9CI) 142 C10H22
4. Octane, 3,5-dimethyl- (8CI9CI) 142 C10H22
5. Octane, 2,5-dimethyl- (8CI9CI) 142 C10H22

Sample file: >C9269 Spectrum #: 714
Search speed: 2 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	64*	592278	8820	"BIGDB	41	52	0	0	92	24	28	43
2.	47*	592132	8819	"BIGDB	43	47	1	0	83	29	19	25
3.	40	52896954	8759	"BIGDB	42	48	0	0	74	35	16	23
4.	38	15869939	3611	"BIGDB	54	39	1	0	86	33	16	21
5.	32	15869893	8749	"BIGDB	49	43	2	0	85	32	12	15



Aliphatic hydrocarbon

conc = $\frac{381079}{277509} \times 50$

= 69.0

GM/2

Anderson

138

MS data file header from : >C9269::D5

Sample: 920045-02 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:09
Misc : ID#MS HALL NUS E-S-02 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Octane (DOT)(8CI9CI) 114 C8H18
2. Heptane, 2,4-dimethyl- (8CI9CI) 128 C9H20
3. Hexane, 3-ethyl- (8CI9CI) 114 C8H18
4. Hexane, 2,4-dimethyl- (8CI9CI) 114 C8H18
5. Hexane, 2,3,4-trimethyl- (8CI9CI) 128 C9H20

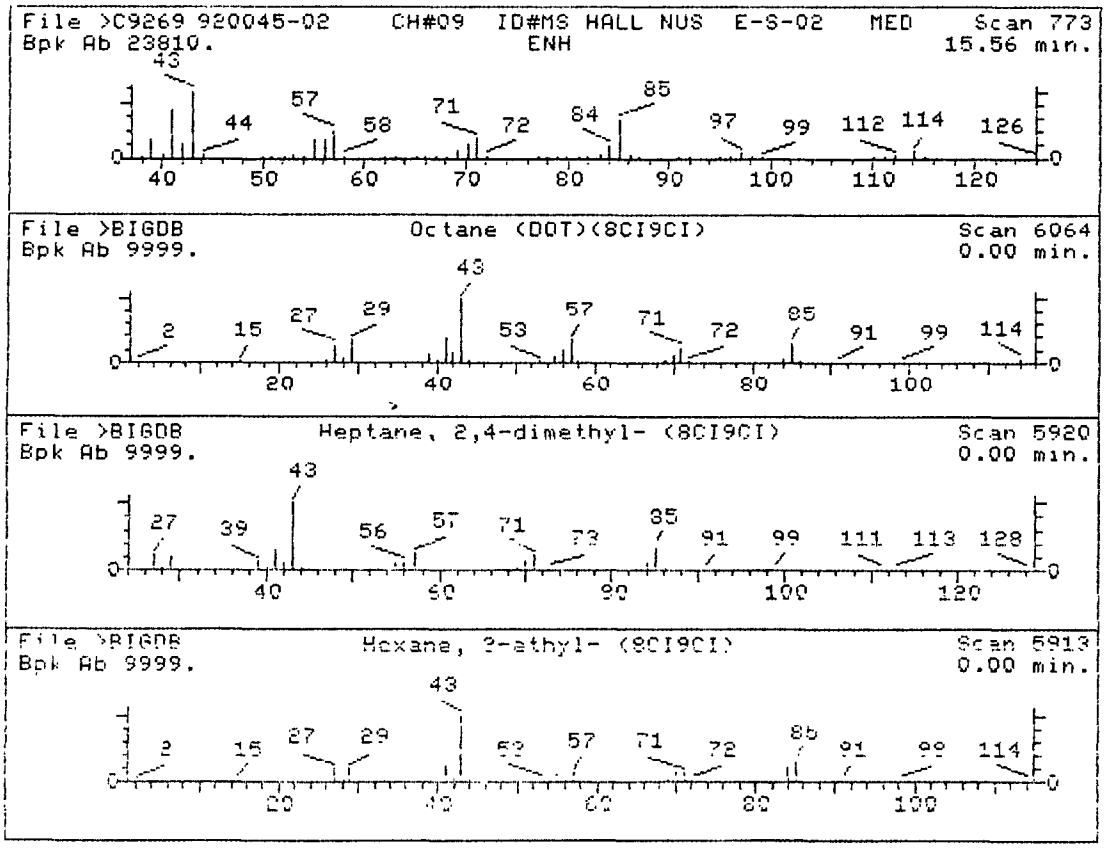
Sample file: >C9269 Spectrum #: 773
Search speed: 2 Tilting option: S No. of ion ranges searched: 44

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	59*	111659	6064	"BIGDB	46	47	0	0	100	40	21	54
2.	49	2213232	5920	"BIGDB	61	31	2	0	143	21	22	21
3.	40*	619998	5913	"BIGDB	34	56	2	0	176	29	14	17
4.	38*	589435	5910	"BIGDB	39	59	2	0	95	29	14	15
5.	32	921471	5917	"BIGDB	48	42	1	0	97	38	10	18

Aliphatic hydrocarbon

conc = $\frac{1130450}{277509} \times 50$

= 204.0



Aliphatic hydrocarbon

MS data file header from : >C9269::D5

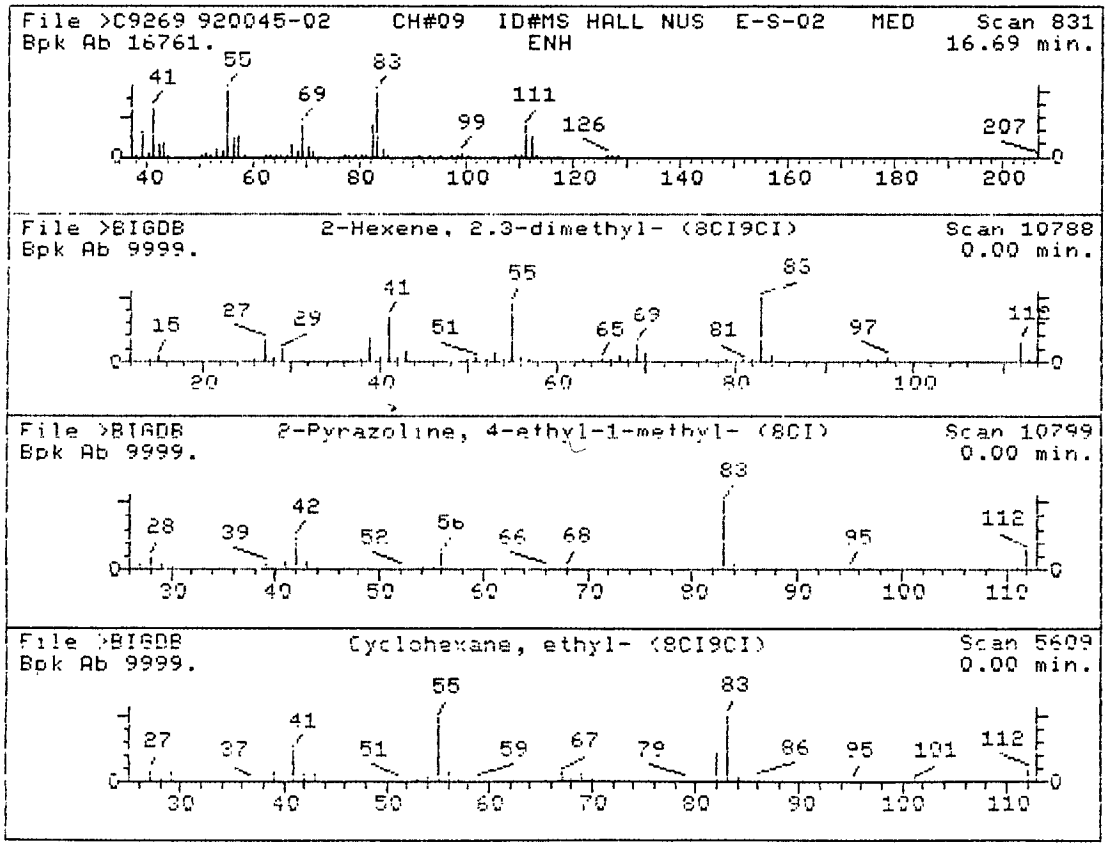
Sample: 920045-02 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:09
Misc : ID#MS HALL NUS E-S-02 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. 2-Hexene, 2,3-dimethyl- (8CI9CI) 112 C8H16
2. 2-Pyrazoline, 4-ethyl-1-methyl- (8CI) 112 C6H12N2
3. Cyclohexane, ethyl- (8CI9CI) 112 C8H16
4. Pyridine, 2,3,4,5-tetrahydro- (8CI9CI) 83 C5H9N
5. 4-Hexen-3-one, 5-methyl- (8CI9CI) 112 C7H12O

Sample file: >C9269 Spectrum #: 831
Search speed: 2 Tilting option: S No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	41*	7145202	10788	"BIGDB	64	30	1	0	80	53	11	63
2.	30*	22581426	10799	"BIGDB	44	43	2	0	96	49	10	23
3.	29*	1678917	5609	"BIGDB	42	57	2	0	96	43	8	17
4.	25*	505180	5562	"BIGDB	31	62	3	0	177	47	7	13
5.	25*	13905107	5614	"BIGDB	29	77	2	0	64	49	7	14



conc = $\frac{463379}{277509} \times 50$

= 83.0

unknown r. 140

JG

MS data file header from : >C9269::D5

Sample: 920045-02 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:09
Misc : ID#MS HALL NUS E-S-02 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

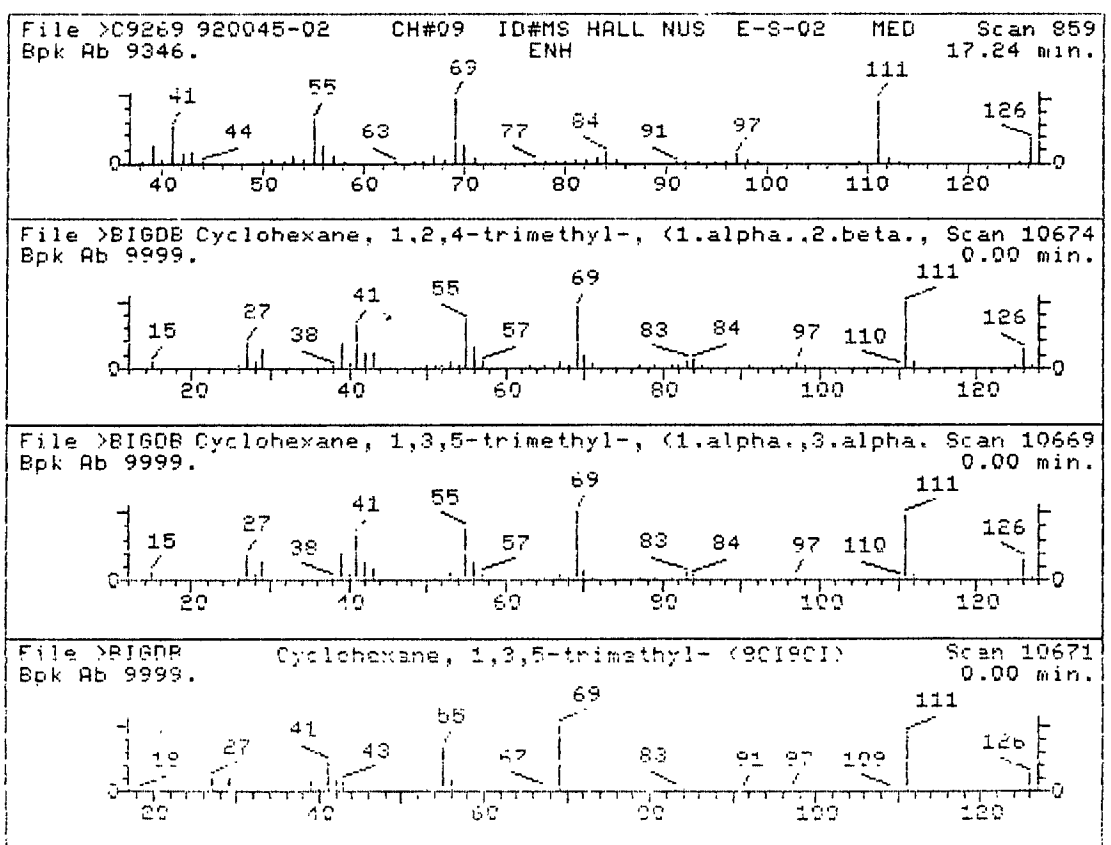
Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Cyclohexane, 1,2,4-trimethyl-, (1.alpha.,2.beta.,4.beta.)- (9CI) 126 C9H18
2. Cyclohexane, 1,3,5-trimethyl-, (1.alpha.,3.alpha.,5.beta.)- (9CI) 126 C9H18
3. Cyclohexane, 1,3,5-trimethyl- (8CI9CI) 126 C9H18
4. Cyclohexane, 1,3,5-trimethyl-, (1.alpha.,3.alpha.,5.alpha.)- (9CI) 126 C9H18
5. Cyclohexane, 1,2,4-trimethyl- (8CI9CI) 126 C9H18

Sample file: >C9269 Spectrum #: 859
Search speed: 2 Tilting option: S No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	84*	7667609	10674	"BIGDB	66	45	1	0	87	6	55	66
2.	76*	1795262	10669	"BIGDB	60	53	1	0	71	12	40	56
3.	74*	1839630	10671	"BIGDB	57	43	1	0	97	15	39	46
4.	73*	1795273	10670	"BIGDB	53	46	0	0	74	21	32	65
5.	58*	2234755	10672	"BIGDB	58	59	1	0	63	38	19	49

Trimethyl cyclohexane isomer



$$\text{conc} = \frac{51604^{0} \times 50}{277509} = 93.0$$

GK

141

JJ

MS data file header from : >C9269::D5

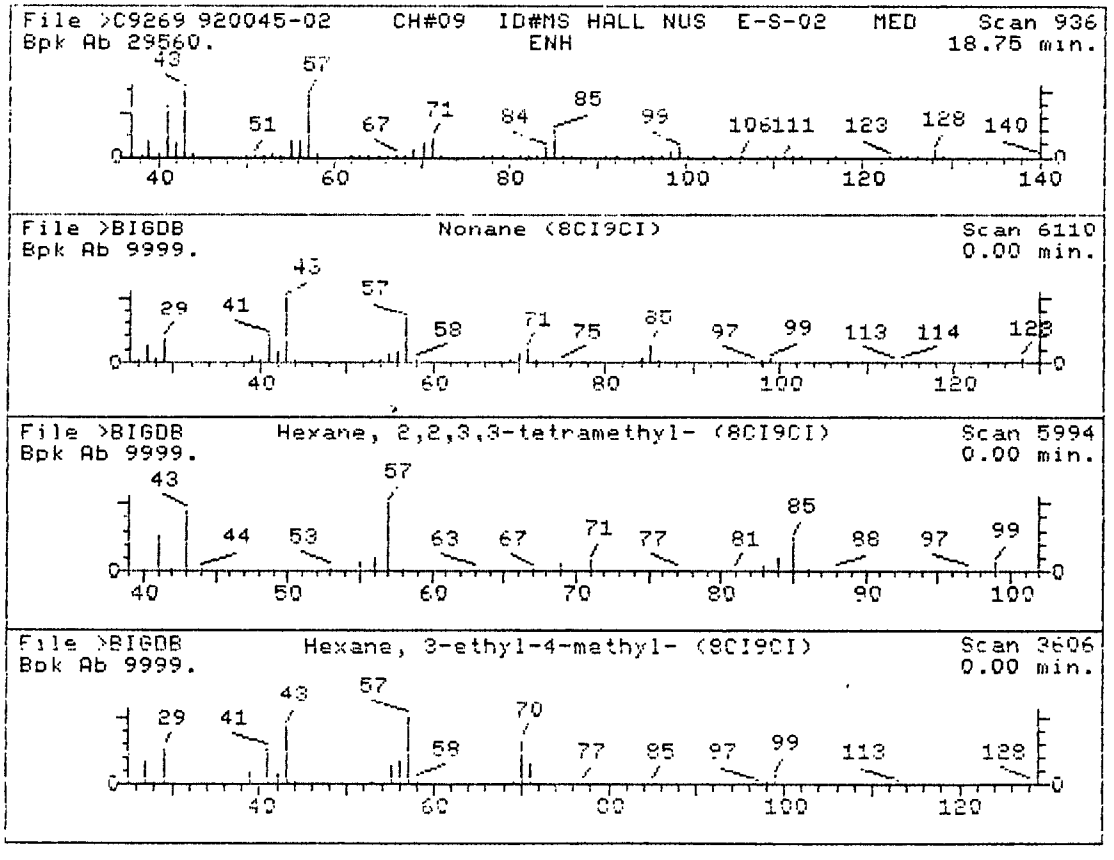
Sample: 920045-02 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:09
Misc : ID#MS HALL NUS E-S-02 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Nonane (8CI9CI) 128 C9H20
2. Hexane, 2,2,3,3-tetramethyl- (8CI9CI) 142 C10H22
3. Hexane, 3-ethyl-4-methyl- (8CI9CI) 128 C9H20
4. Hexane, 2,4-dimethyl- (8CI9CI) 114 C8H18
5. Heptane, 2,4-dimethyl- (8CI9Cl) 128 C9H20

Sample file: >C9269 Spectrum #: 936
Search speed: 2 Tilting option: S No. of ion ranges searched: 44

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	111842	6110	"BIGDB	70	26	1	0	130	3	66	69
2.	49	13475815	5994	"BIGDB	56	39	1	0	69	25	22	21
3.	49*	3074779	3606	"BIGDB	50	46	1	0	74	34	20	33
4.	43	589435	5910	"BIGDB	46	52	1	0	86	22	17	14
5.	40*	2213232	5920	"BIGDB	39	53	0	0	100	48	12	41



Conc = $\frac{1010845}{602304} \times 50$

= 84.0

Aliphatic hydrocarbon

142

MS data file header from : >C9269::D5

Sample: 920045-02 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:09
Misc : ID#MS HALL NUS E-S-02 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

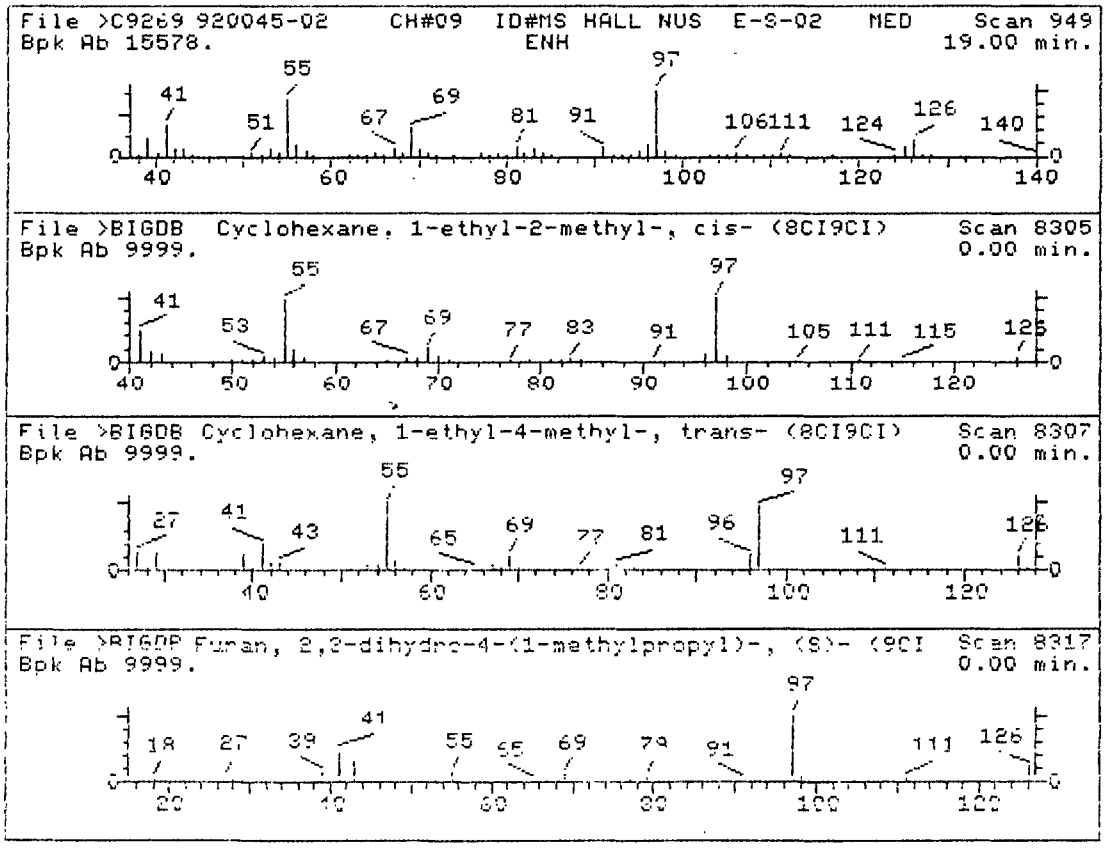
1. Cyclohexane, 1-ethyl-2-methyl-, cis- (8CI9CI) 126 C9H18
2. Cyclohexane, 1-ethyl-4-methyl-, trans- (8CI9CI) 126 C9H18
3. Furan, 2,3-dihydro-4-(1-methylpropyl)-, (S)- (9CI) 126 C8H14O
4. Cyclohexane, 1-ethyl-1-methyl- (8CI9CI) 126 C9H18
5. 4-Hepten-3-one, 5-methyl- (8CI9CI) 126 C8H14O

Sample file: >C9269 Spectrum #: 949
Search speed: 2 Tilting option: S No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	79*	4923777	8305	"BIGDB	64	28	0	-3	75	12	43	61
2.	68*	6236880	8307	"BIGDB	46	50	0	0	74	24	30	54
3.	59*	34379549	8317	"BIGDB	49	39	2	0	99	22	27	30
4.	51*	4926903	8248	"BIGDB	46	45	1	0	81	27	19	29
5.	50*	1447263	8304	"BIGDB	42	49	2	0	100	25	22	22

C_9H_{18} isomer

$$Conc = \frac{416787}{602304} \times 50 = 35.0$$



GAC

MS data file header from : >C9269::D5

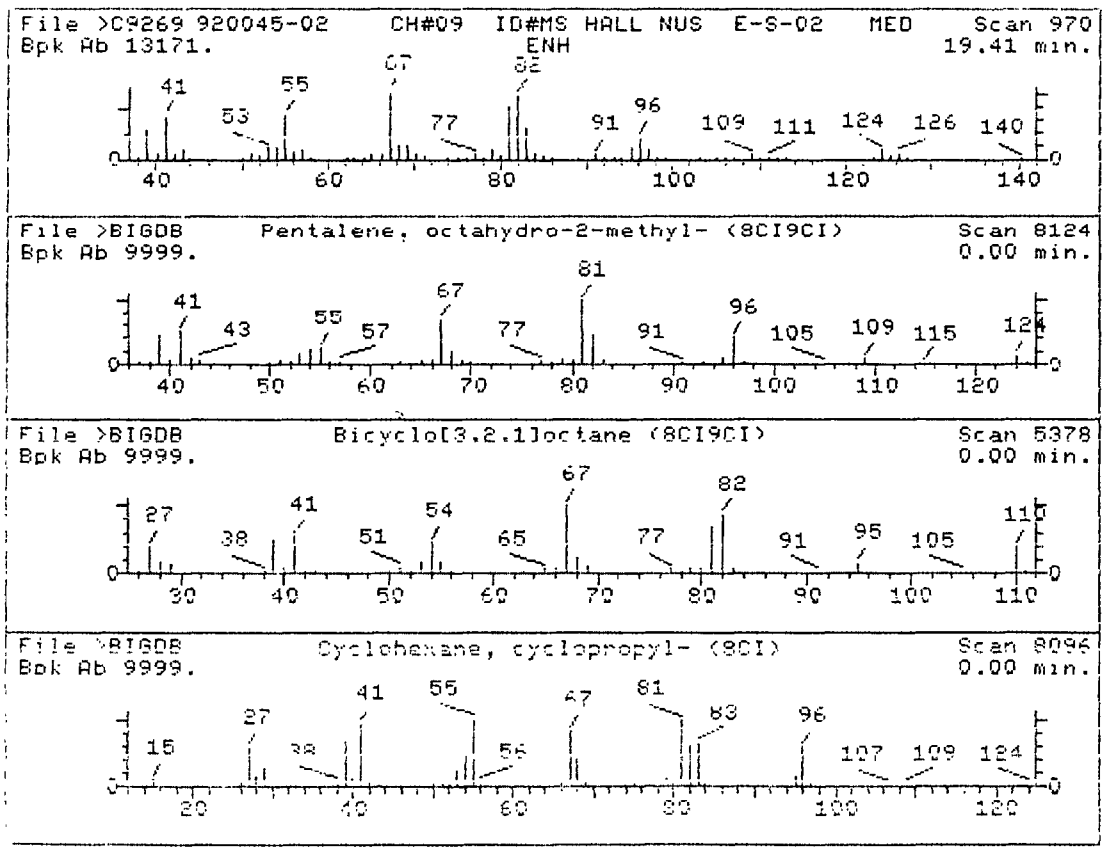
Sample: 920045-02 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:09
Misc : ID#MS HALL NUS E-S-02 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Pentalene, octahydro-2-methyl- (8CI9CI) 124 C9H16
2. Bicyclo[3.2.1]octane (8CI9CI) 110 C8H14
3. Cyclohexane, cyclopropyl- (8CI) 124 C9H16
4. Pentalene, octahydro-1-methyl- (8CI9CI) 124 C9H16
5. 3,4-Nonadiene (9CI) 124 C9H16

Sample file: >C9269 Spectrum #: 970
Search speed: 2 Tilting option: S No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	68*	3868642	8124	"BIGDB	66	45	0	0	79	47	20	78
2.	43	6221552	5378	"BIGDB	67	46	2	0	89	23	17	14
3.	41*	32669866	8096	"BIGDB	57	64	2	0	55	42	14	34
4.	30*	32273771	2905	"BIGDB	51	54	2	0	94	50	10	25
5.	30	37050036	5343	"BIGDB	48	43	1	0	100	43	8	18



conc = $\frac{575345}{602304} \times 50$

= 48.0

unknown

MS data file header from : >C9269::D5

Sample: 920045-02 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:09
Misc : ID#MS HALL NUS E-S-02 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Cyclohexane, propyl- (8CI9CI) 126 C9H18
2. 2-Octenal, (E)- (8CI9CI) 126 C8H14O
3. Cyclohexane, (1-methylethyl)- (9CI) 126 C9H18
4. Cyclohexane, 2-propenyl- (9CI) 124 C9H16
5. Cyclohexane, (2-methylpropyl)- (9CI) 140 C10H20

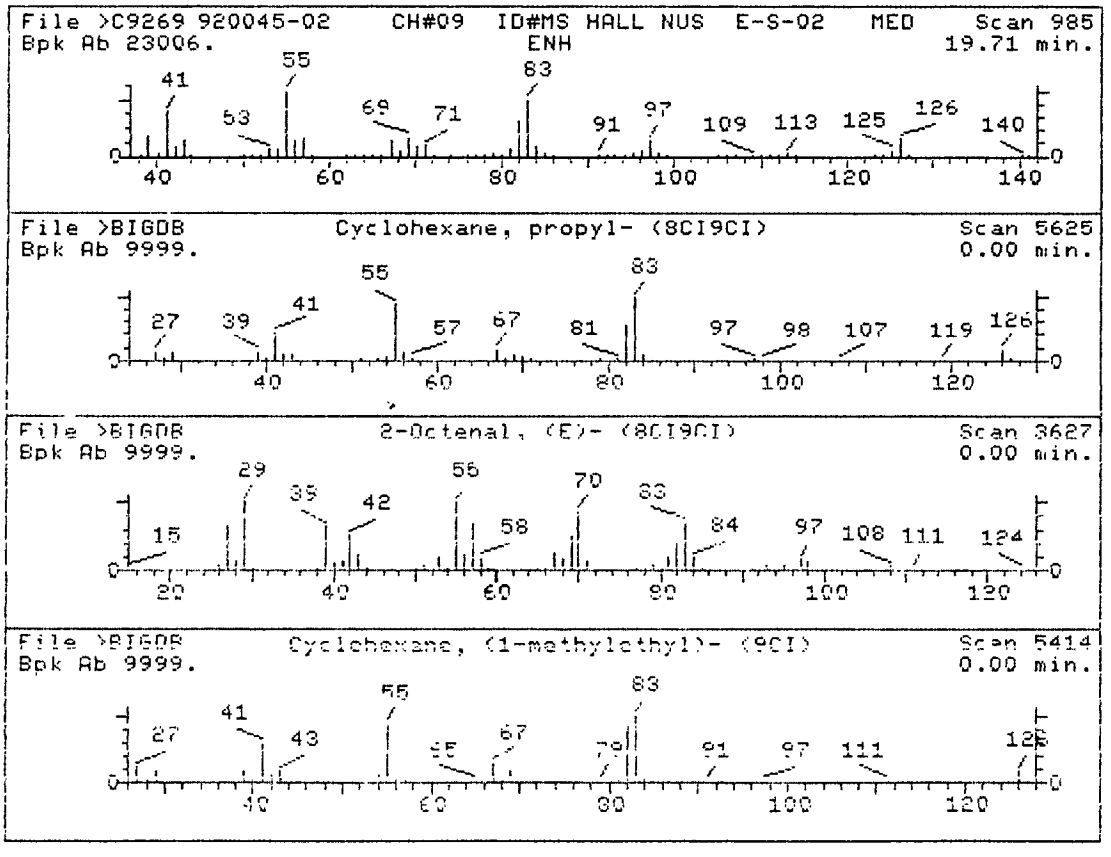
Sample file: >C9269 Spectrum #: 985
Search speed: 2 Tilting option: S No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	67*	1678928	5625	"BIGDB	46	51	0	0	87	28	27	54
2.	52*	2548870	3627	"BIGDB	39	81	3	0	100	18	20	13
3.	47*	696297	5414	"BIGDB	36	67	0	0	63	31	20	31
4.	46	2114423	5622	"BIGDB	72	27	1	0	87	38	17	35
5.	43	1678984	5636	"BIGDB	53	50	1	0	87	22	17	14

C_9H_{18} isomer

$conc = \frac{1273435}{602304} \times 50$

$= 106.0$



MS data file header from : >C9269::D5

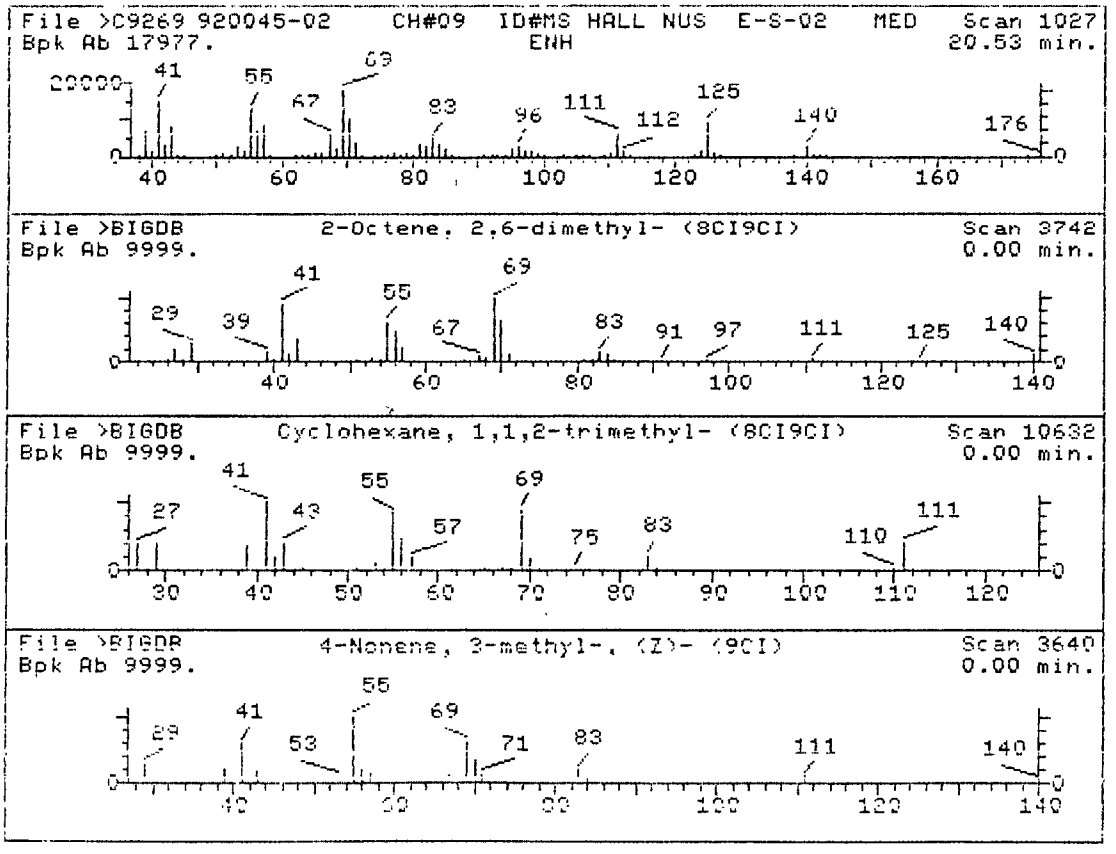
Sample: 920045-02 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:09
Misc : ID#MS HALL NUS E-S-02 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. 2-Octene, 2,6-dimethyl- (8CI9CI) 140 C10H20
2. Cyclohexane, 1,1,2-trimethyl- (8CI9CI) 126 C9H18
3. 4-Nonene, 3-methyl-, (Z)- (9CI) 140 C10H20
4. 3-Octene, 2,6-dimethyl- (8CI9CI) 140 C10H20
5. Cyclopentane, 1,1,3,4-tetramethyl-, cis- (9CI) 126 C9H18

Sample file: >C9269 Spectrum #: 1027
Search speed: 2 Tilting option: S No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	64*	4057425	3742	"BIGDB	44	60	0	0	76	35	22	49
2.	61*	7094260	10632	"BIGDB	55	53	0	0	79	45	18	66
3.	53*	63830693	3640	"BIGDB	53	48	1	0	142	35	20	37
4.	52*	6874288	3743	"BIGDB	59	49	2	0	98	35	20	36
5.	51*	53907601	10646	"BIGDB	49	59	1	0	80	30	19	29



$$conc = \frac{1328104}{602304} \times 50$$

$$= 110.0$$

unknown

146

MS data file header from : >C9269::D5

Sample: 920045-02 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:09
Misc : ID#MS HALL NUS E-S-02 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

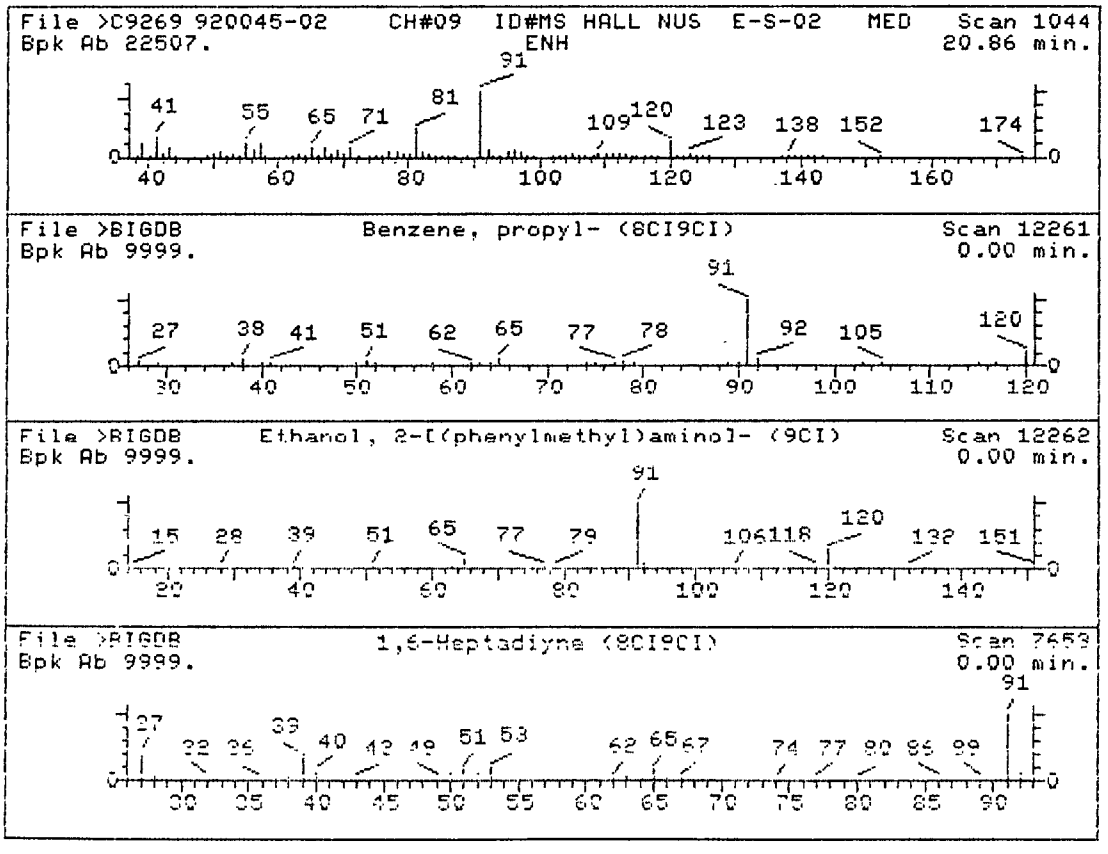
Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Benzene, propyl- (8CI9CI) 120 C9H12
2. Ethanol, 2-[(phenylmethyl)amino]- (9CI) 151 C9H13NO
3. 1,6-Heptadiyne (8CI9CI) 92 C7H8

Sample file: >C9269 Spectrum #: 1044
Search speed: 2 Tilting option: S No. of ion ranges searched: 69

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	59*	103651	12261	"BIGDB	52	33	2	0	100	22	27	35
2.	43	104632	12262	"BIGDB	42	37	2	0	80	24	17	14
3.	28*	2396636	7653	"BIGDB	25	71	2	0	95	36	10	14

C_3-benzene isomer



$$\text{conc} = \frac{617202}{602304} \times 50$$

$$= 51.0$$

unknown

MS data file header from : >C9269::D5

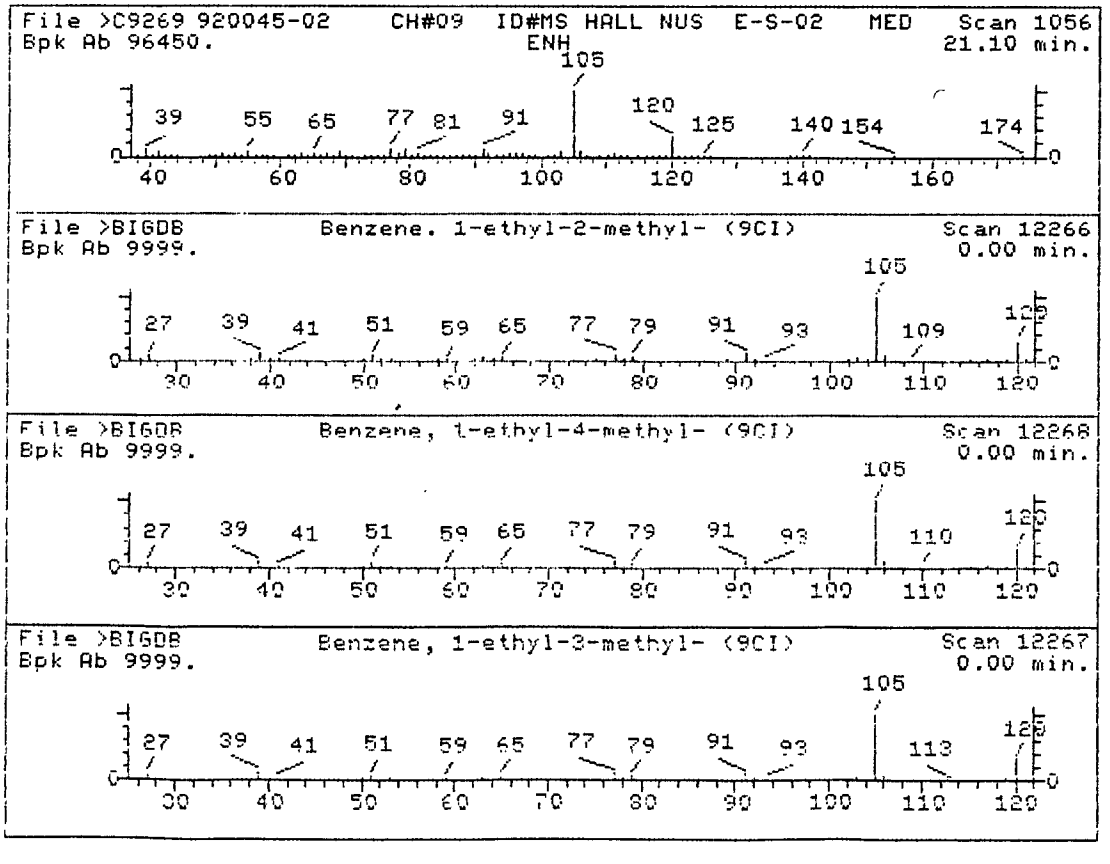
Sample: 920045-02 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:09
Misc : ID#MS HALL NUS E-S-02 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
2. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12
3. Benzene, 1-ethyl-3-methyl- (9CI) 120 C9H12
4. Benzene, (1-methylethyl)- (9CI) 120 C9H12
5. Benzene, 1,2,3-trimethyl- (8CI9CI) 120 C9H12

Sample file: >C9269 Spectrum #: 1056
Search speed: 2 Tilting option: S No. of ion ranges searched: 53

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	95*	611143	12266	"BIGDB	80	5	1	0	100	11	64	96
2.	94*	622968	12268	"BIGDB	79	6	1	0	96	11	64	95
3.	93*	620144	12267	"BIGDB	75	12	1	0	75	11	64	93
4.	74*	98828	12259	"BIGDB	55	32	2	0	96	13	39	41
5.	71*	526738	12280	"BIGDB	64	36	2	1	67	11	38	38



C3-benzene isomer

conc = 2617345 / 602304 x 50

= 217.0

148

MS data file header from : >C9269::D5

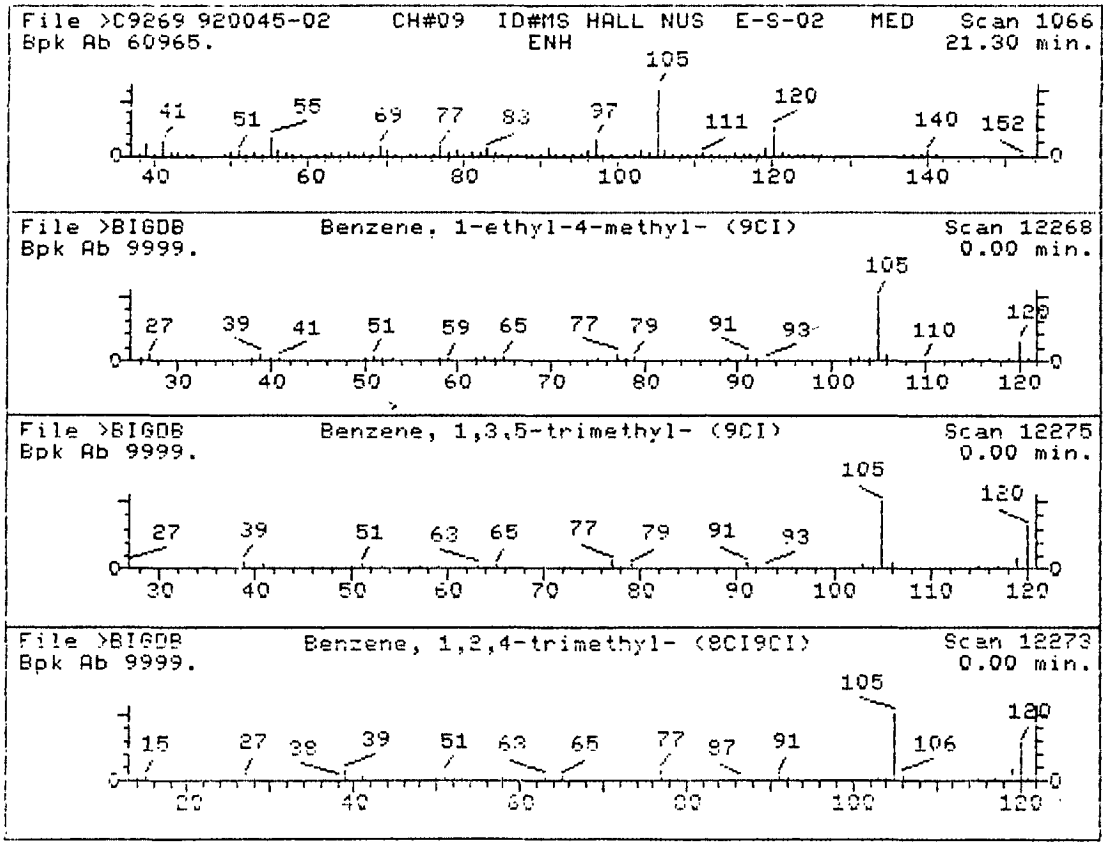
Sample: 920045-02 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:09
Misc : ID#MS HALL NUS E-S-02 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12
2. Benzene, 1,3,5-trimethyl- (9CI) 120 C9H12
3. Benzene, 1,2,4-trimethyl- (8CI9CI) 120 C9H12
4. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
5. Benzene, 1-ethyl-3-methyl- (9CI) 120 C9H12

Sample file: >C9269 Spectrum #: 1066
Search speed: 2 Tilting option: S No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	91*	622968	12268	"BIGDB	69	16	0	0	83	33	50	94
2.	81*	108678	12275	"BIGDB	78	10	2	0	69	18	45	72
3.	81*	95636	12273	"BIGDB	76	19	1	0	67	18	45	76
4.	75*	611143	12266	"BIGDB	66	19	1	0	86	33	32	76
5.	71*	620144	12267	"BIGDB	66	21	1	0	86	33	32	72



C3-benzene isomer

conc = 2274265 / 602304 x 50

= 189.0

~~unknown~~ 01/12

~~C3-benzene isomer~~

MS data file header from : >C9269::D5

Sample: 920045-02 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:09
Misc : ID#MS HALL NUS E-S-02 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

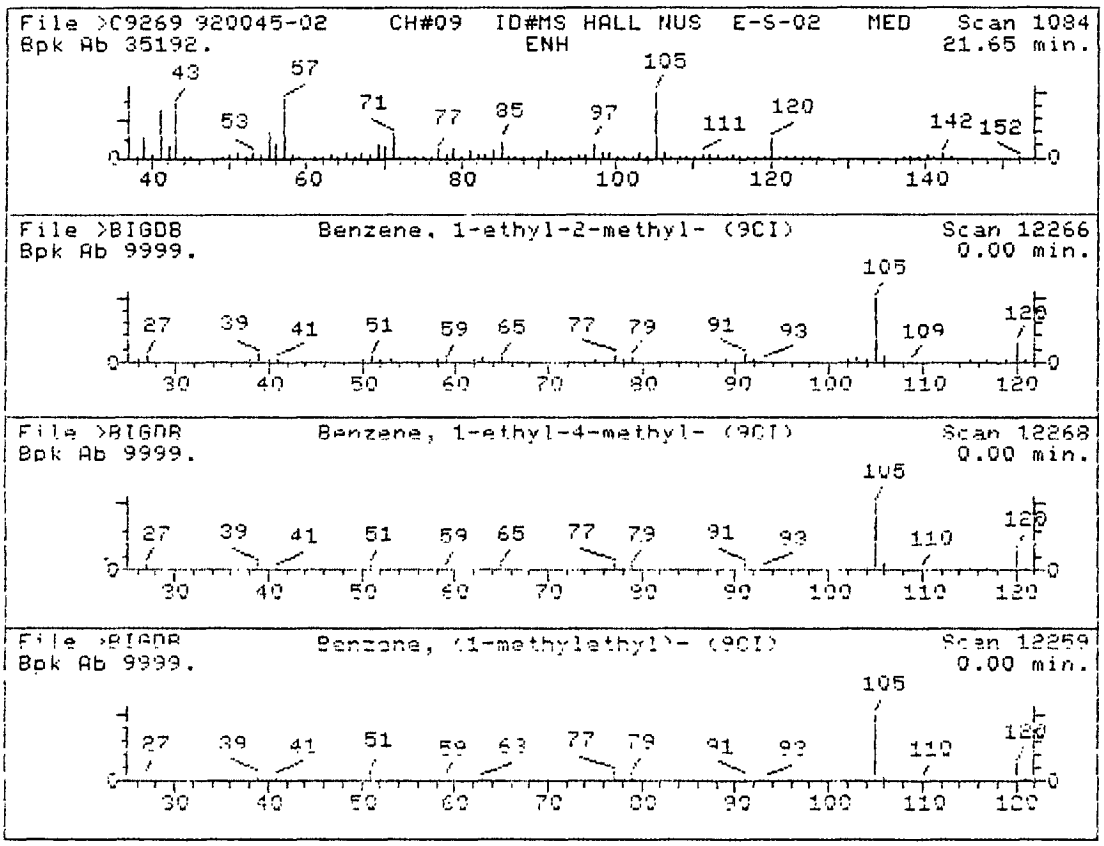
Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
2. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12
3. Benzene, (1-methylethyl)- (9CI) 120 C9H12
4. Benzene, 1-ethyl-3-methyl- (9CI) 120 C9H12
5. 7-Oxabicyclo[4.1.0]heptane, 3-methyl- (9CI) 112 C7H12O

Sample file: >C9269 Spectrum #: 1084
Search speed: 2 Tilting option: S No. of ion ranges searched: 78

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	87*	611143	12266	"BIGDB	80	5	1	0	96	42	43	96
2.	70*	622968	12268	"BIGDB	67	18	1	0	96	42	24	77
3.	62*	98828	12259	"BIGDB	68	19	0	-1	72	41	18	67
4.	56*	620144	12267	"BIGDB	70	17	2	0	93	42	18	61
5.	33*	36099511	8280	"BIGDB	45	41	1	2	19	37	10	19

C3-benzene isomer



conc = $\frac{2227796}{602304} \times 50$

= 185.0

G/C

~~C3 benzene isomer~~

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-S-03

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-03

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC240

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 13 Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	6	J
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	9	J
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	10	J
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	17	
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	94	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-03

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-03

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC240

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 13 Date Analyzed: 02/03/92

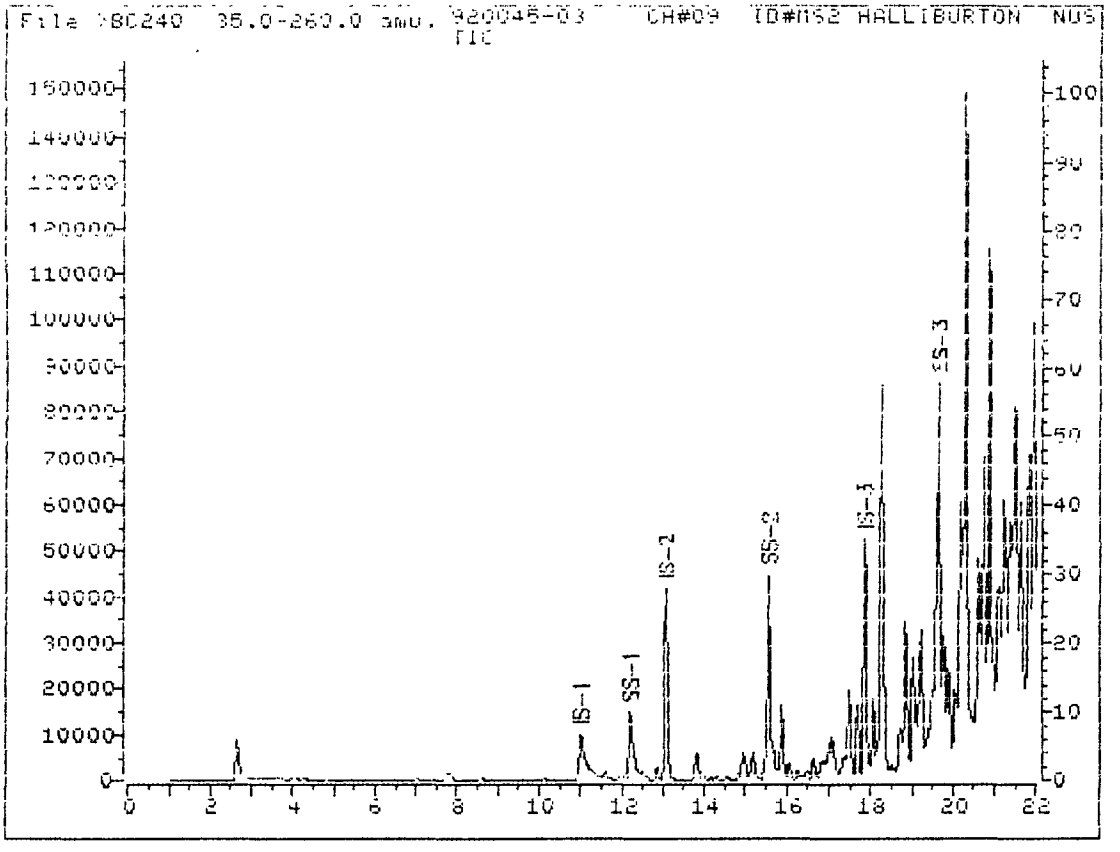
GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	Unknown	19.21	40	J
2. 000000	C3-benzene isomer	20.17	76	J
3. 000000	C3-benzene isomer	20.60	49	J
4. 000000	Aliphatic hydrocarbon	20.74	46	J
5. 000000	C3-benzene isomer	20.86	94	J
6. 000000	Unknown	21.09	36	J
7. 000000	Unknown	21.21	45	J
8. 000000	Unknown	21.49	63	J
9. 000000	Unknown	21.62	48	J
10. 000000	C4-benzene isomer	21.82	63	J



MS data file header from : >BC240::D4

Sample: 920045-03 CH#09 Operator: VOA2 REG. GRP. 2/03/92 18:52
Misc : ID#MS2 HALLIBURTON NUS E-S-03 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

Operator ID: VOA2 Quant Rev: 7 Quant Time: 920203 19:23
Output File: ^BC240::QT Injected at: 920203 18:52
Data File: >BC240::D4 Dilution Factor: 1.00000
Name: 920045-03 CH#09 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-03 LOW SOIL 5.0G+Q1-33

ID File: V2ID::D1
Title: VOLATILE ANALYSIS CLP-TCL DB624 75 Meters ID:MS2
Last Calibration: 910429 11:21 Last Qcal Time: 920203 16:58

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	11.00	128.0	18681M	50.00	UG/L	
7)	C035 Acetone	6.00	43.0	1327	5.65	UG/L	99
13)	CS15 1,2-Dichloroethane-d4	12.19	65.0	38961	52.38	UG/L 105%	94
16)	*CI10 1,4-Difluorobenzene	13.05	114.0	81429	50.00	UG/L	100
25)	C165 Benzene	12.27	78.0	8808	8.14	UG/L	100
28)	*CI20 Chlorobenzene-d5	17.84	117.0	65748	50.00	UG/L	98
33)	C230 Toluene	15.67	91.0	10051	8.34	UG/L	94
34)	CS05 Toluene d-8	15.55	98.0	68064	48.49	UG/L 97%	95
36)	C240 Ethylbenzene	18.06	106.0	6424	14.69	UG/L	94
38)	C250 Total Xylenes	18.23	106.0	46098M	82.05	UG/L	95
39)	CS10 Bromofluorobenzene	19.64	95.0	57452	47.63	UG/L 95%	86

* Compound is ISTD

CB

X GC 1024 51 1.99- 22.00 149395.0 >BC240 35.00- 260.00

MS data file header from : >BC240::D4

Sample: 920045-03 CH#09 Operator: VOA2 REG. GRP. 2/03/92 18:52
Misc : ID#MS2 HALLIBURTON NUS E-S-03 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

>BC240 920045-03 CH#09 ID#MS2 HALLIBURTON NUS E-S-03 LOW SOI

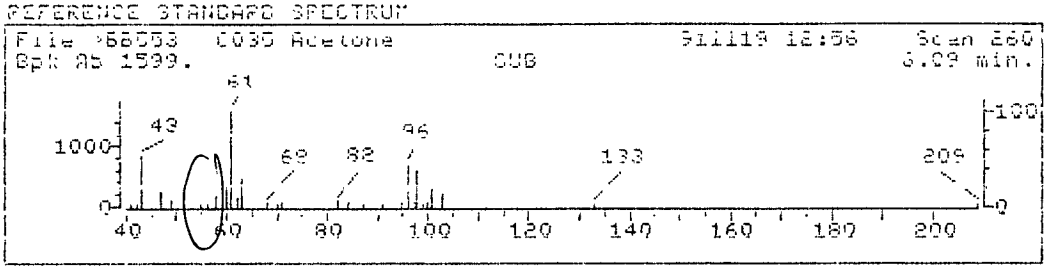
35.0| 260.0 TIC
Upslope: .2000 Area Reject:20.00 % Max Peaks: 18 Bunch: 1 Valley >100 %
Dnslope: 0.0000 Results File VDIR87 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	11.00	506	512	539	9786	126695	123832	20.54	2.778
2	13.05	612	617	630	41375	194811	191473	31.75	4.295
3	15.55	736	745	749	44383	216404	211397	35.06	4.742
4	17.84	858	862	869	51185	227923	210859	34.97	4.730
5	18.25	876	883	892	83483	513916	474821*	78.75	10.651
6	18.84	909	913	919	31640	186321	143174*	23.74	3.212
7	19.21	928	932	937	26897	209959	146529*	24.30	3.287
8	19.64	947	954	958	77717	550532	440359*	73.03	9.878
9	20.17	977	981	984	48188	376615	277433*	46.01	6.223
10	20.29	984	987	993	135854	741082	602976*	100.00	13.526
11	20.60	999	1003	1007	35317	303741	181665	30.13	4.075
12	20.74	1007	1010	1013	45704	331338	168929*	28.02	3.789
13	20.86	1013	1016	1021	91094	565077	344548*	57.14	7.729
14	21.09	1024	1028	1031	22359	293934	129772	21.52	2.911
15	21.21	1031	1034	1039	30000	448372	166049*	27.54	3.725
16	21.49	1045	1048	1052	48696	491914	233184*	38.67	5.231
17	21.62	1052	1055	1061	40250	388735	178919*	29.67	4.013
18	21.82	1061	1065	1068	50338	399851	232127	38.50	5.207

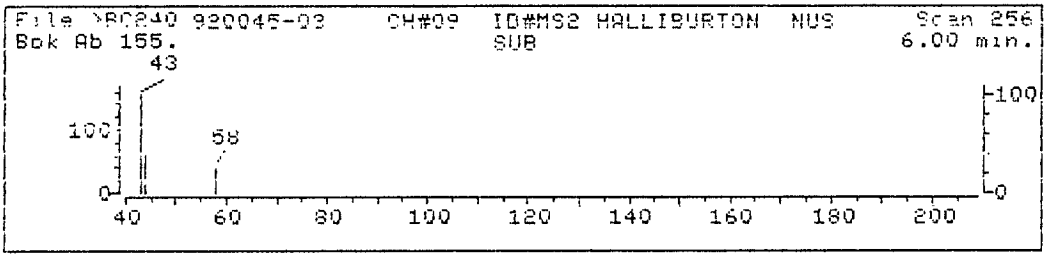
Sum of corrected areas: 4458046.

~~12~~ 11 TIC

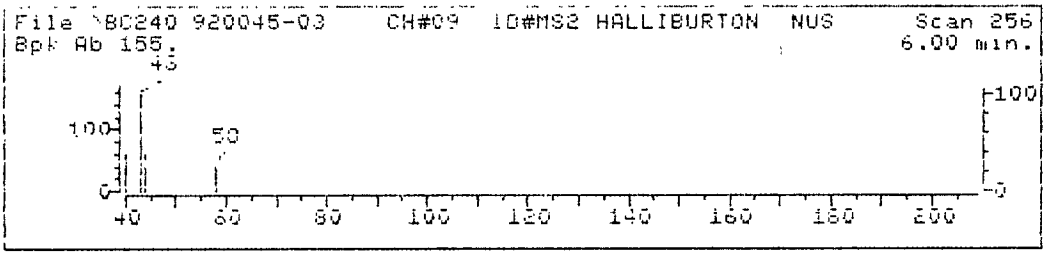
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

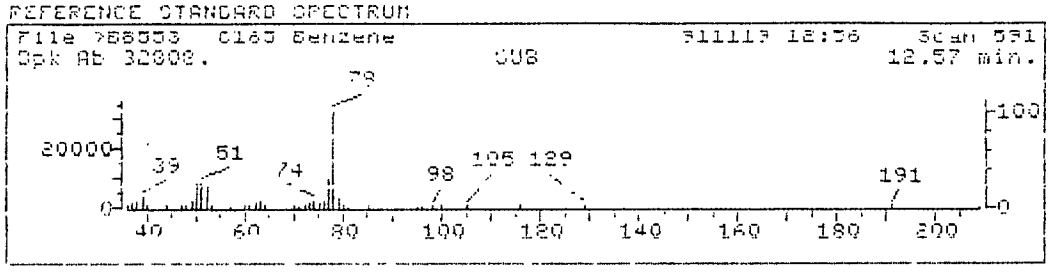


Data File: >BC240::D4 Quant Output File: ^BC240::QT
Name: 920045-03 CH#09 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-03 LOW SOIL 5.0G+Q1-33
Quant Time: 920203 19:23 Quant ID File: V2ID::D1
Injected at: 920203 18:52 Last Calibration: 910429 11:21
Last Qcal Time: 920203 16:58

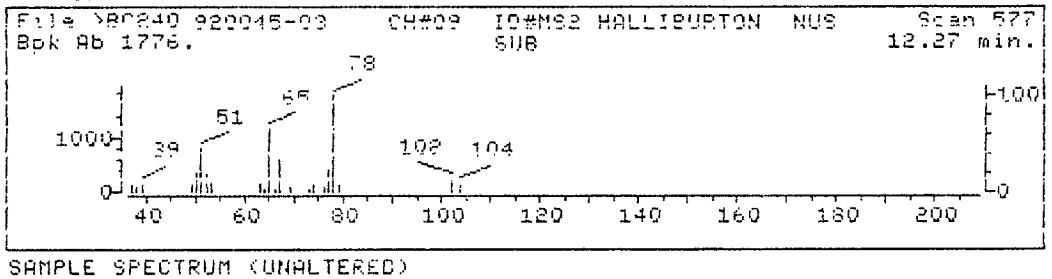
Compound No : 7
Compound Name : C035 Acetone
Scan Number : 256
Retention Time: 6.00 min.
Quant Ion : 43.0
Area : 1327
Concentration : 5.65 UG/L
q-value : 99

CB

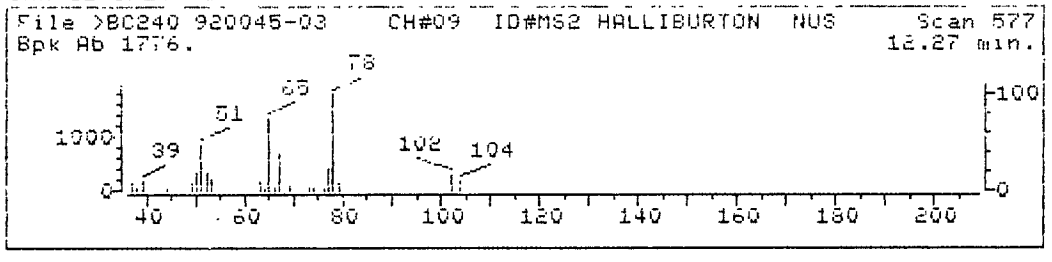
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

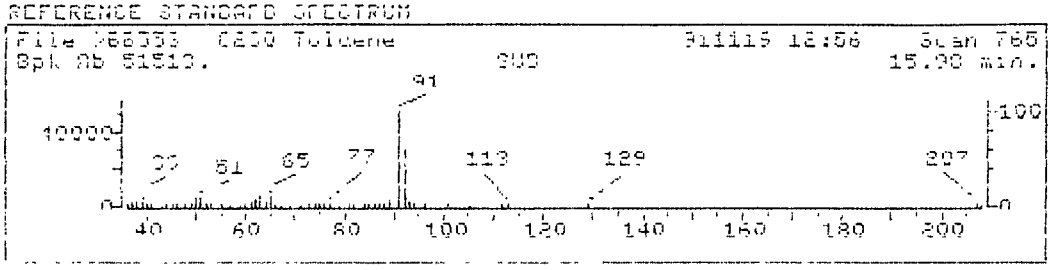


Data File: >BC240::D4 Quant Output File: ^BC240::QT
Name: 920045-03 CH#09 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-03 LOW SOIL 5.0G+Q1-33
Quant Time: 920203 19:23 Quant ID File: V2ID::D1
Injected at: 920203 18:52 Last Calibration: 910429 11:21
Last Qcal Time: 920203 16:58

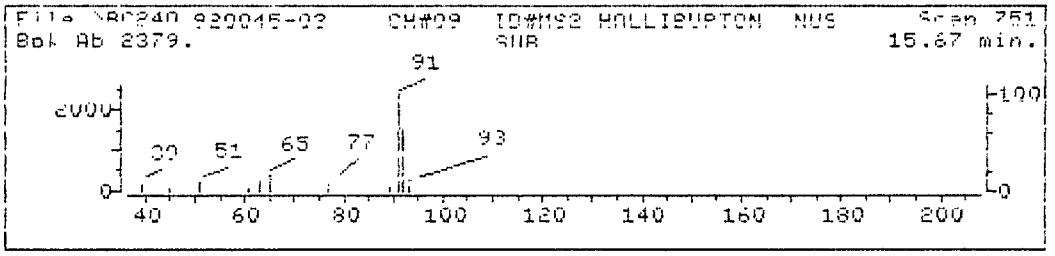
Compound No : 25
Compound Name : C165 Benzene
Scan Number : 577
Retention Time: 12.27 min.
Quant Ion : 78.0
Area : 8808
Concentration : 8.14 UG/L
q-value : 100

CB

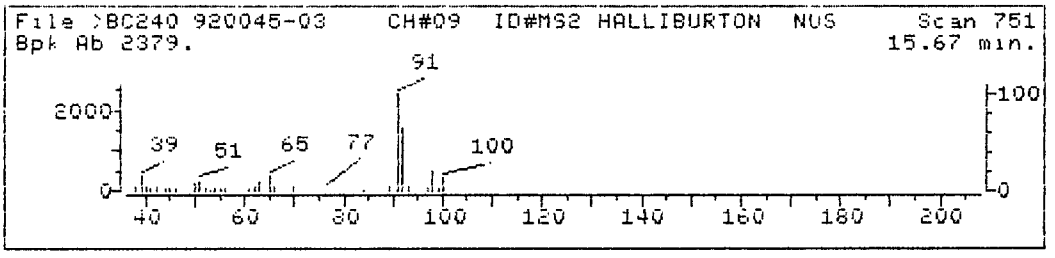
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

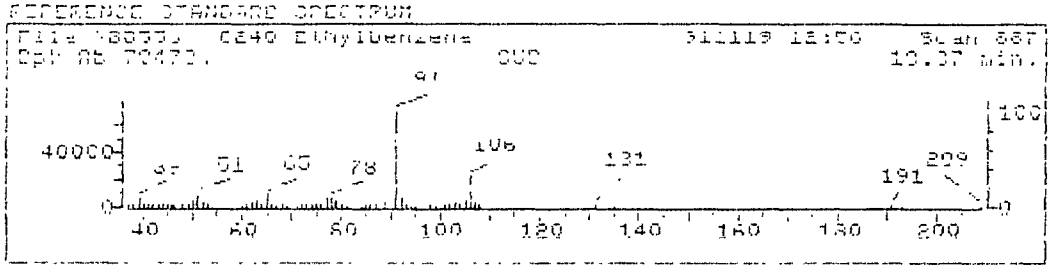


Data File: >BC240::D4 Quant Output File: ^BC240::QT
Name: 920045-03 CH#09 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-03 LOW SOIL 5.0G+Q1-33
Quant Time: 920203 19:23 Quant ID File: V2ID::D1
Injected at: 920203 18:52 Last Calibration: 910429 11:21
Last Qcal Time: 920203 16:58

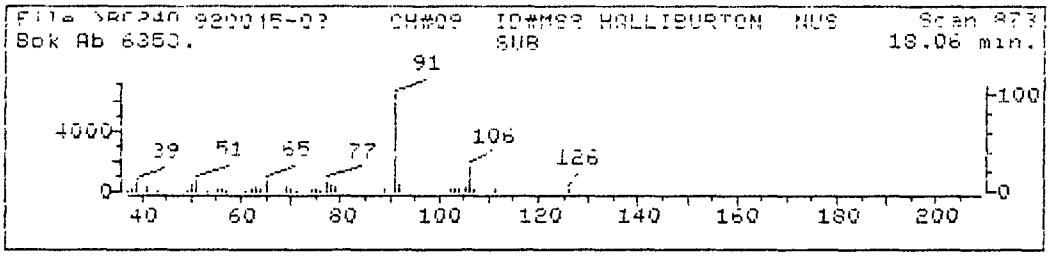
Compound No : 33
Compound Name : C230 Toluene
Scan Number : 751
Retention Time: 15.67 min.
Quant Ion : 91.0
Area : 10051
Concentration : 8.34 UG/L
q-value : 94

CB

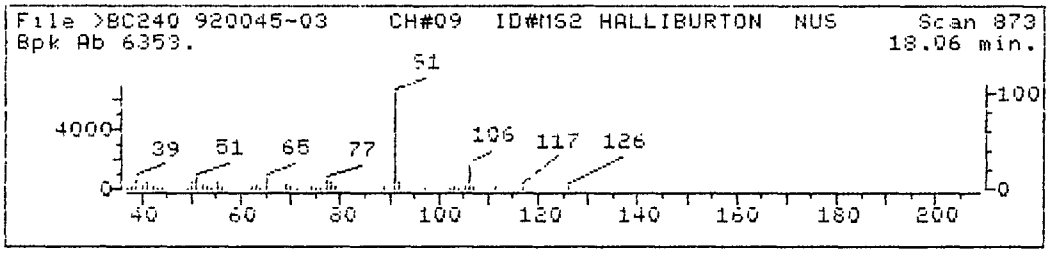
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

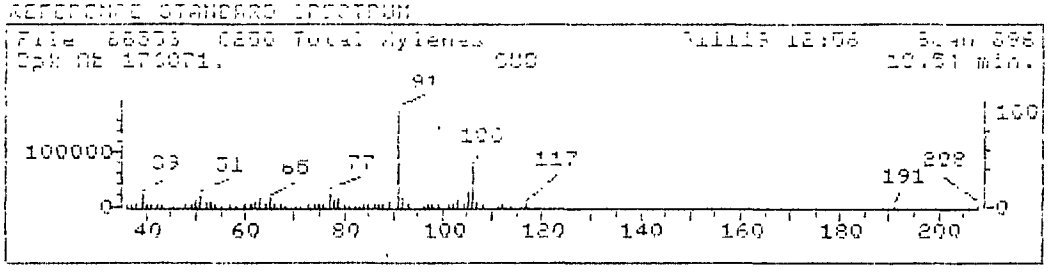


Data File: >BC240::D4 Quant Output File: ^BC240::QT
Name: 920045-03 CH#09 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-03 LOW SOIL 5.0G+Q1-33
Quant Time: 920203 19:23 Quant ID File: V2ID::D1
Injected at: 920203 18:52 Last Calibration: 910429 11:21
Last Qcal Time: 920203 16:58

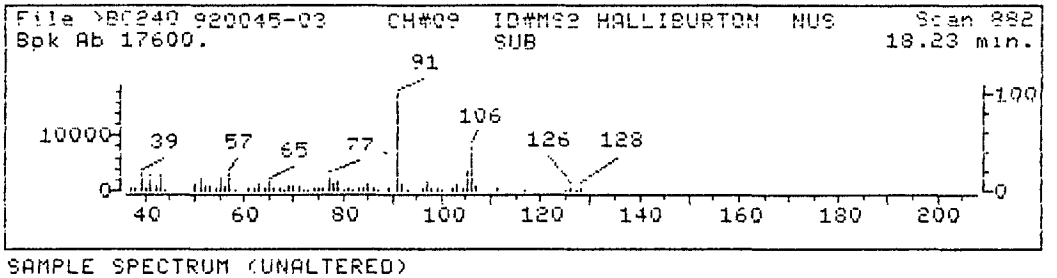
Compound No : 36
Compound Name : C240 Ethylbenzene
Scan Number : 873
Retention Time: 18.06 min.
Quant Ion : 106.0
Area : 6424
Concentration : 14.69 UG/L
q-value : 94

EB

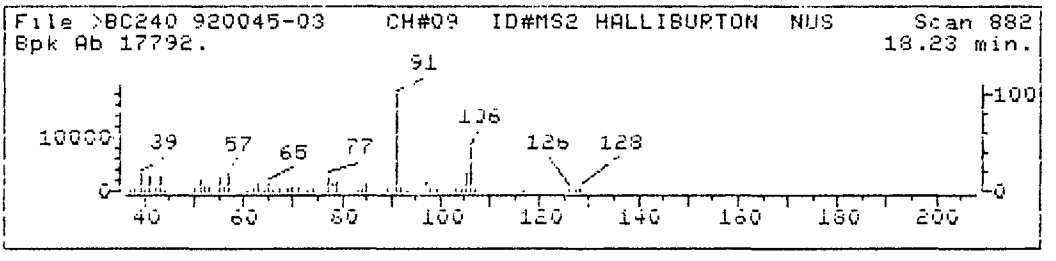
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >BC240::D4 Quant Output File: ^BC240::QT
Name: 920045-03 CH#09 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-03 LOW SOIL 5.0G+Q1-33
Quant Time: 920203 19:23 Quant ID File: V2ID::D1
Injected at: 920203 18:52 Last Calibration: 910429 11:21
Last Qcal Time: 920203 16:58

Compound No : 38
Compound Name : C250 Total Xylenes
Scan Number : 882
Retention Time: 18.23 min.
Quant Ion : 106.0
Area : 46098M
Concentration : 82.05 UG/L
q-value : 95

CB

MS data file header from : >BC240::D4

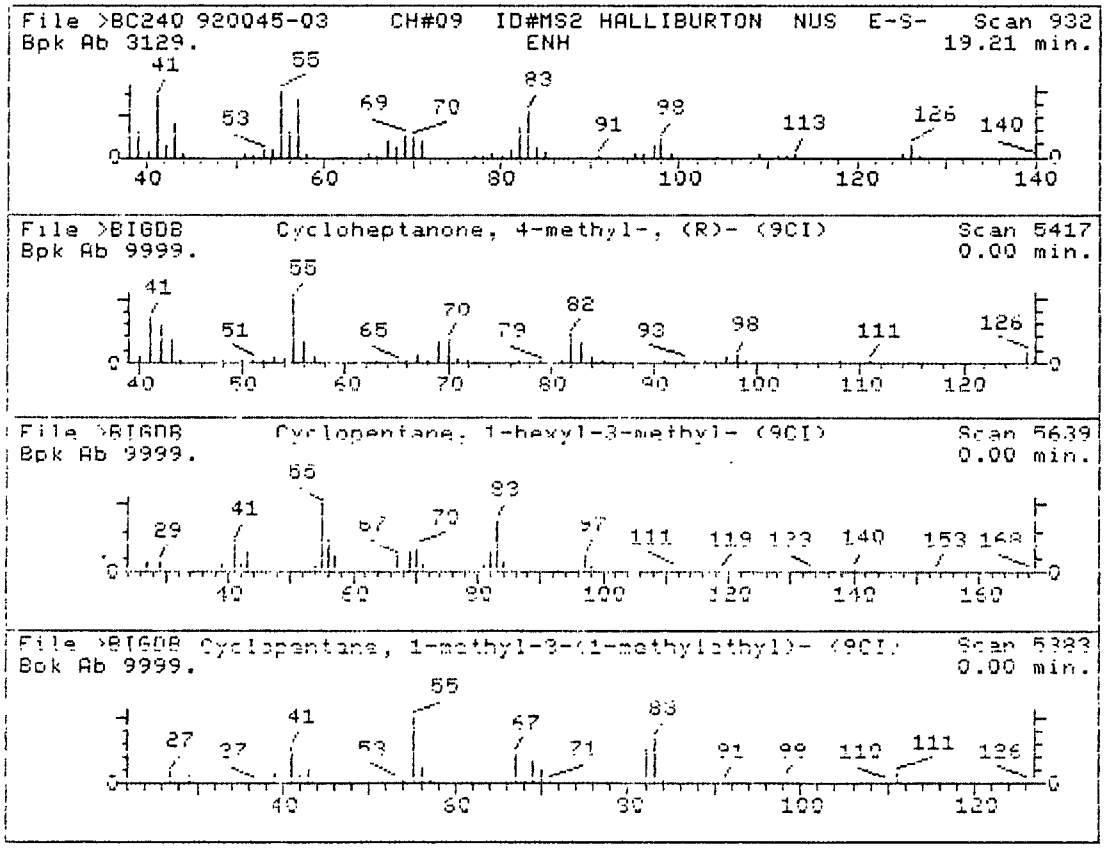
Sample: 920045-03 CH#09 Operator: VOA2 REG. GRP. 2/03/92 18:52
Misc : ID#MS2 HALLIBURTON NUS E-S-03 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Cycloheptanone, 4-methyl-, (R)- (9CI) 126 C8H14O
2. Cyclopentane, 1-hexyl-3-methyl- (9CI) 168 C12H24
3. Cyclopentane, 1-methyl-3-(1-methylethyl)- (9CI) 126 C9H18
4. Cyclohexane, (1-methylethyl)- (9CI) 126 C9H18
5. Cyclopentane, 1-methyl-2-propyl- (8CI9CI) 126 C9H18

Sample file: >BC240 Spectrum #: 932
Search speed: 2 Tilting option: S No. of ion ranges searched: 54

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	55*	13609591	5417	"BIGDB	58	53	2	0	81	30	24	35
2.	34	61142685	5639	"BIGDB	69	37	2	0	80	36	14	21
3.	32*	53771883	5383	"BIGDB	42	60	2	0	92	33	12	15
4.	31*	696297	5414	"BIGDB	28	75	0	0	51	45	8	19
5.	28*	3728572	3711	"BIGDB	37	64	0	0	47	51	8	33



$$\text{conc} = \frac{146529}{210859} \times \frac{50}{1}$$

$$= 35.0$$

unknown 161

MS data file header from : >BC240::D4

Sample: 920045-03 CH#09 Operator: VOA2 REG. GRP. 2/03/92 18:52
Misc : ID#MS2 HALLIBURTON NUS E-S-03 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12
2. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
3. Benzene, 1-ethyl-3-methyl- (9CI) 120 C9H12
4. Benzene, (1-methylethyl)- (9CI) 120 C9H12
5. Benzene, 1,1'-(1-methyl-1,2-ethanediyl)bis- (9CI) 196 C15H16

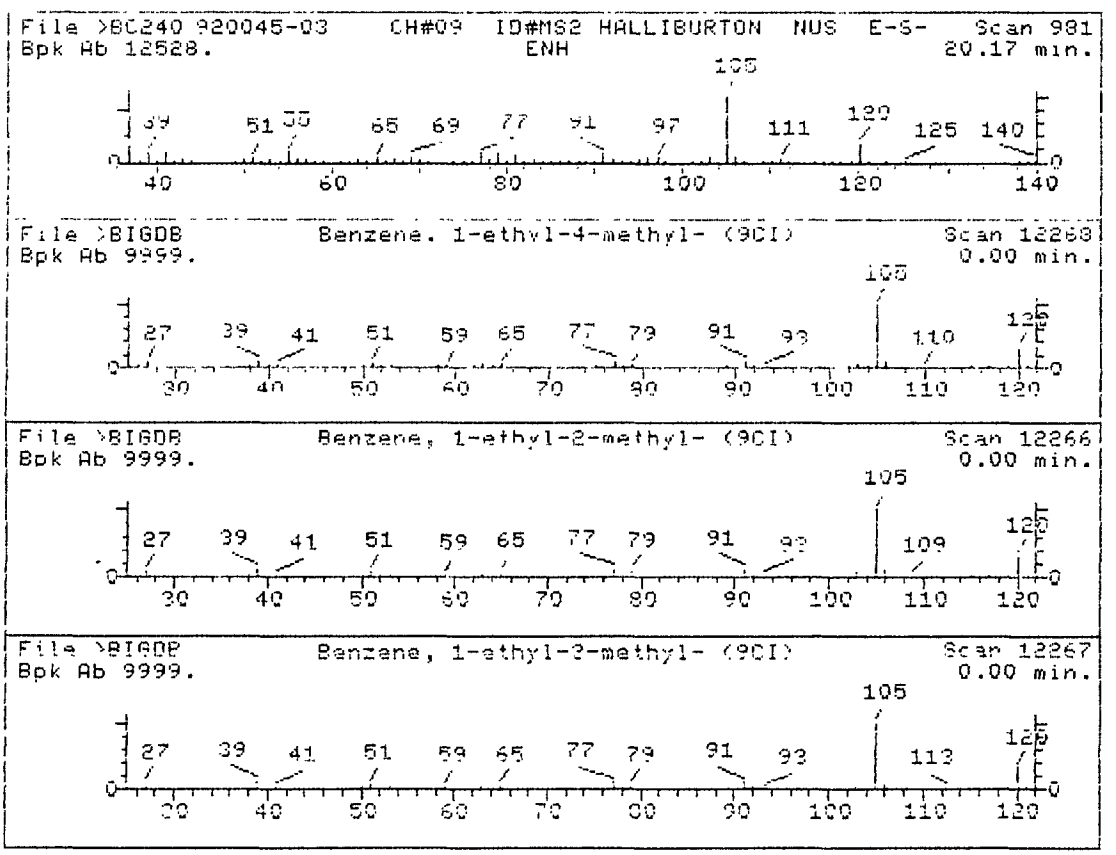
Sample file: >BC240 Spectrum #: 981
Search speed: 2 Tilting option: S No. of ion ranges searched: 60

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	93*	622968	12268	"BIGDB	73	12	1	0	92	9	68	92
2.	89*	611143	12266	"BIGDB	80	5	1	1	94	9	62	80
3.	86*	620144	12267	"BIGDB	69	18	1	0	73	9	59	77
4.	83*	98828	12259	"BIGDB	71	16	1	-2	92	9	54	59
5.	47	5814857	9857	"BIGDB	66	33	3	0	100	24	17	18

C3-benzene isomer

$$\text{conc} = \frac{279433}{210859} \times 50$$

$$= 66.0$$



unknown

MS data file header from : >BC240::D4

Sample: 920045-03 CH#09 Operator: VOA2 REG. GRP. 2/03/92 18:52
Misc : ID#MS2 HALLIBURTON NUS E-S-03 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

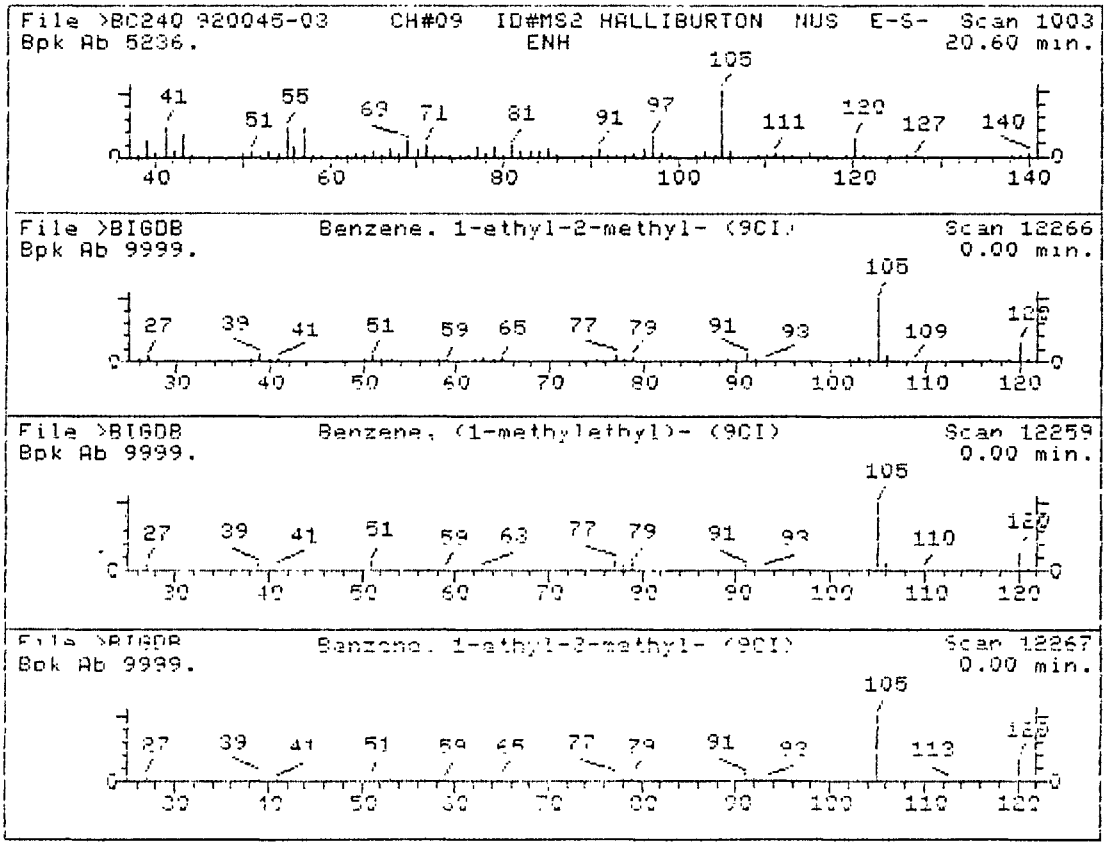
Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
2. Benzene, (1-methylethyl)- (9CI) 120 C9H12
3. Benzene, 1-ethyl-3-methyl- (9CI) 120 C9H12
4. Benzene, 1,1'-(1-methyl-1,2-ethanediyl)bis- (9CI) 196 C15H16
5. Benzene, 1,2,3-trimethyl- (8CI9CI) 120 C9H12

Sample file: >BC240 Spectrum #: 1003
Search speed: 2 Tilting option: S No. of ion ranges searched: 80

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	611143	12266	"BIGDB	72	13	0	0	77	38	47	95
2.	73*	98828	12259	"BIGDB	69	18	1	0	80	36	28	77
3.	59*	620144	12267	"BIGDB	63	24	2	0	83	38	21	50
4.	25	5814857	9857	"BIGDB	58	41	2	0	100	50	7	17
5.	18*	526738	12280	"BIGDB	66	34	1	0	50	61	5	66

C3-benzene isomer



conc = $\frac{181665}{210859} \times 50$

= 43.

unknown

MS data file header from : >BC240::D4

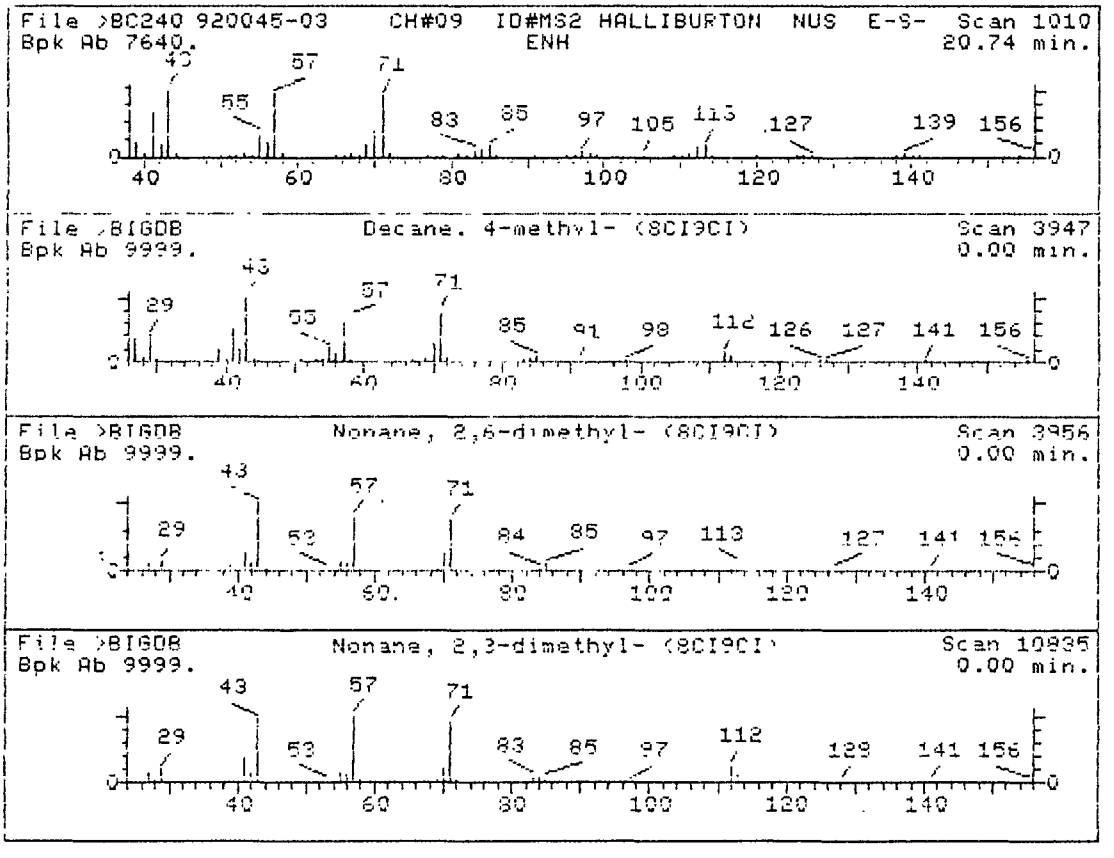
Sample: 920045-03 CH#09 Operator: VOA2 REG. GRP. 2/03/92 18:52
Misc : ID#MS2 HALLIBURTON NUS E-S-03 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Decane, 4-methyl- (8CI9CI) 156 $C_{11}H_{24}$
2. Nonane, 2,6-dimethyl- (8CI9CI) 156 $C_{11}H_{24}$
3. Nonane, 2,3-dimethyl- (8CI9CI) 156 $C_{11}H_{24}$
4. Heptane, 3-ethyl-5-methyl- (9CI) 142 $C_{10}H_{22}$
5. Heptane, 5-ethyl-2-methyl- (8CI9CI) 142 $C_{10}H_{22}$

Sample file: >BC240 Spectrum #: 1010
Search speed: 2 Tilting option: S No. of ion ranges searched: 49

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	83*	2847725	3947	"BIGDB	59	42	0	0	88	11	51	72
2.	70*	17302282	3956	"BIGDB	47	44	0	0	100	16	32	55
3.	67*	2884062	10835	"BIGDB	39	62	1	0	94	14	34	21
4.	63	52896909	3958	"BIGDB	53	41	0	0	94	20	30	31
5.	58	13475780	3954	"BIGDB	50	51	0	0	90	19	25	27



$$conc = \frac{168929}{210859} \times 50$$

$$= 40.0$$

Aliphatic hydrocarbon

MS data file header from : >BC240::D4

Sample: 920045-03 CH#09 Operator: VOA2 REG. GRP. 2/03/92 18:52
Misc : ID#MS2 HALLIBURTON NUS E-S-03 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Benzene, 1,2,4-trimethyl- (8CI9CI) 120 C9H12
2. Benzene, 1,3,5-trimethyl- (9CI) 120 C9H12
3. Benzene, 1,2,3-trimethyl- (8CI9CI) 120 C9H12
4. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12
5. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12

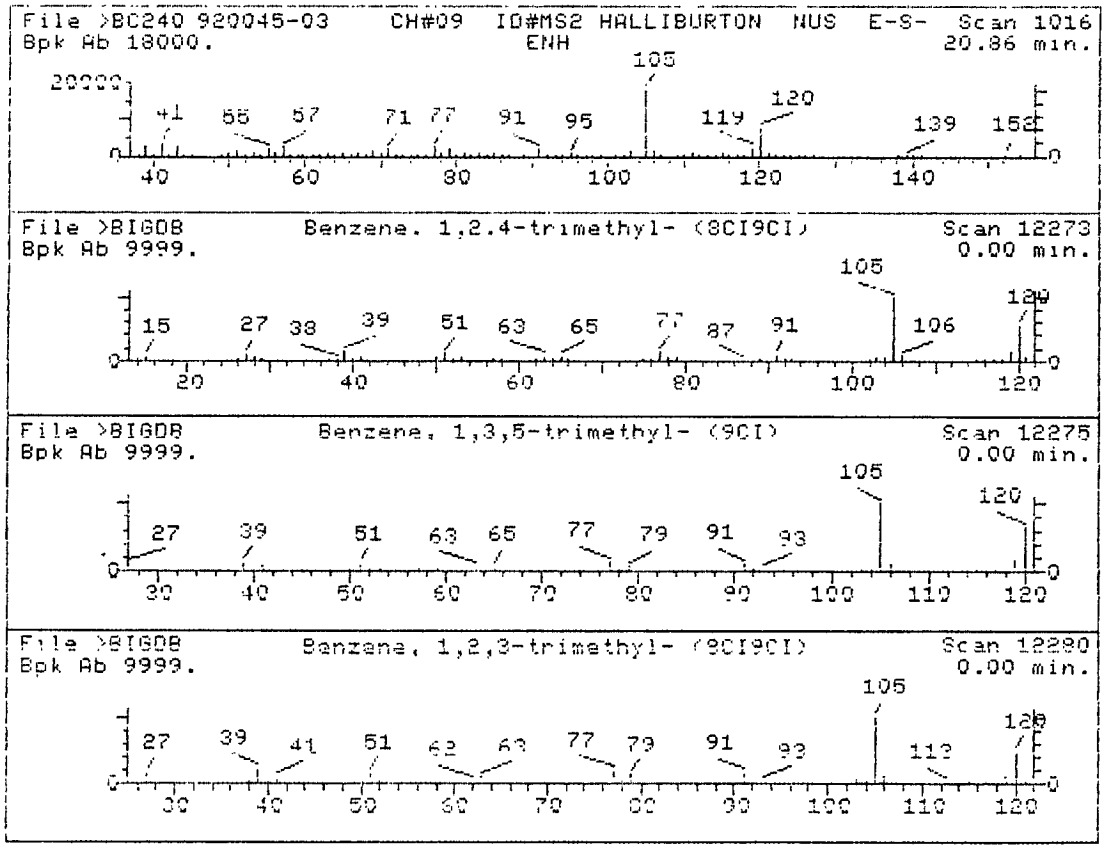
Sample file: >BC240 Spectrum #: 1016
Search speed: 2 Tilting option: S No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	95636	12273	"BIGDB	80	15	1	0	66	9	62	89
2.	83*	108678	12275	"BIGDB	73	15	2	3	75	9	54	57
3.	83*	526738	12280	"BIGDB	72	28	2	0	78	9	54	54
4.	76*	622968	12268	"BIGDB	65	20	2	0	100	14	40	55
5.	76*	611143	12266	"BIGDB	65	20	2	0	100	14	40	55

C3-benzene isomer

$$conc = \frac{344548}{210859} \times 50$$

$$= 82.0$$



MS data file header from : >BC240::D4

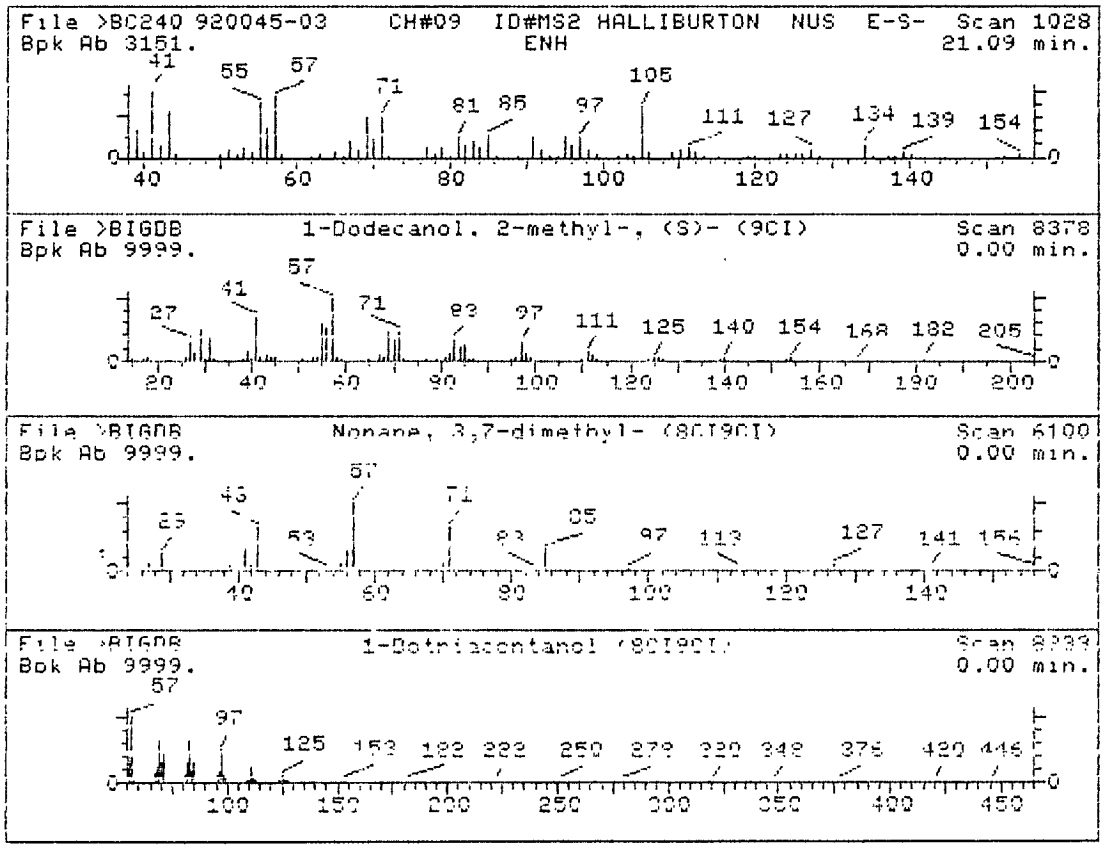
Sample: 920045-03 CH#09 Operator: VOA2 REG. GRP. 2/03/92 18:52
Misc : ID#MS2 HALLIBURTON NUS E-S-03 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. 1-Dodecanol, 2-methyl-, (S)- (9CI) 200 C13H28O
2. Nonane, 3,7-dimethyl- (8CI9CI) 156 C11H24
3. 1-Dotriacontanol (8CI9CI) 466 C32H66O
4. 17-Pentatriacontene (8CI) 490 C35H70
5. Decane, 3-methyl- (8CI9CI) 156 C11H24

Sample file: >BC240 Spectrum #: 1028
Search speed: 2 Tilting option: S No. of ion ranges searched: 93

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	71	57289266	8378	"BIGDB	91	43	0	0	72	29	29	66
2.	61*	17302328	6100	"BIGDB	55	31	0	0	89	43	18	66
3.	60	6624799	8333	"BIGDB	82	99	3	0	92	15	30	15
4.	60	6971400	8334	"BIGDB	93	78	3	0	112	15	30	19
5.	57*	13151343	13424	"BIGDB	55	39	1	0	92	32	22	42



$$\text{Conc} = \frac{129772}{210859} \times 50$$

$= 31$

Unknown

166

MS data file header from : >BC240::D4

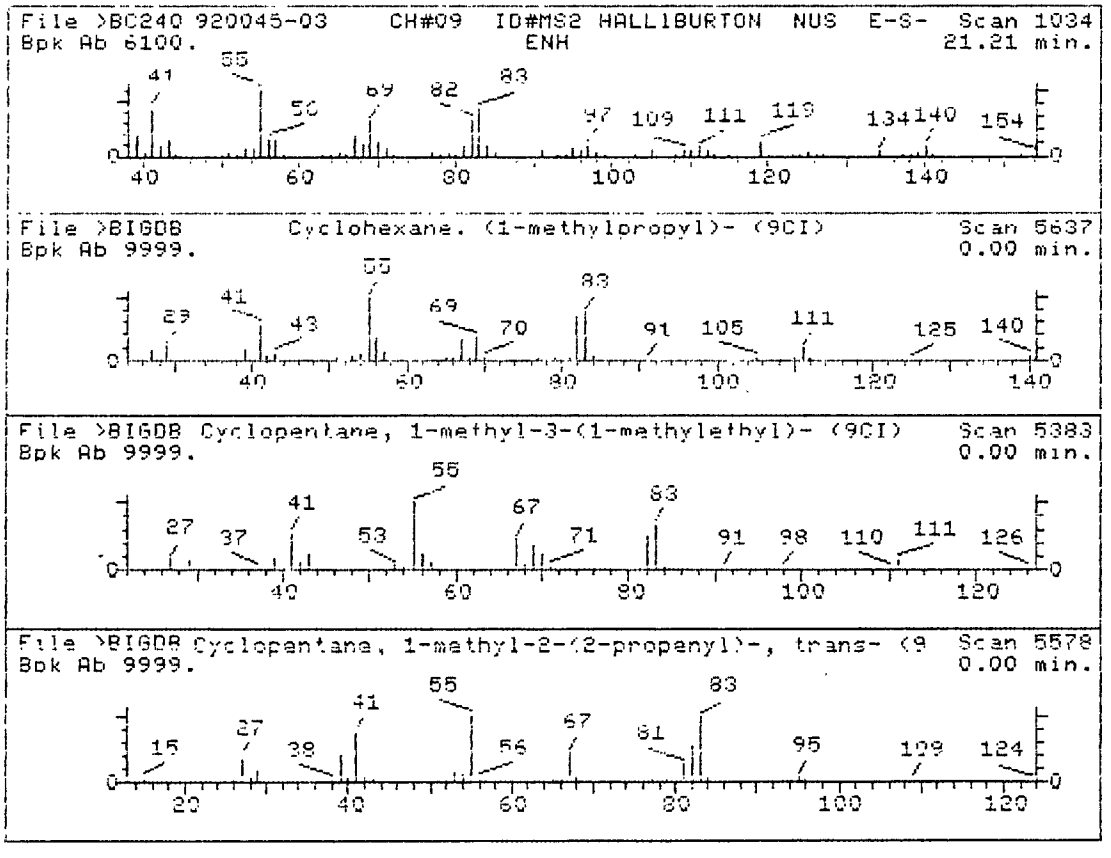
Sample: 920045-03 CH#09 Operator: VOA2 REG. GRP. 2/03/92 18:52
Misc : ID#MS2 HALLIBURTON NUS E-S-03 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Cyclohexane, (1-methylpropyl)- (9CI) 140 C10H20
2. Cyclopentane, 1-methyl-3-(1-methylethyl)- (9CI) 126 C9H18
3. Cyclopentane, 1-methyl-2-(2-propenyl)-, trans- (9CI) 124 C9H16
4. Cyclohexane, (2-methylpropyl)- (9CI) 140 C10H20
5. Cyclohexanone, 3,3,5-trimethyl- (8C19CI) 140 C9H16O

Sample file: >BC240 Spectrum #: 1034
Search speed: 2 Tilting option: S No. of ion ranges searched: 54

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	69*	7058017	5637	"BIGDB	54	47	0	0	71	31	26	66
2.	69*	53771883	5383	"BIGDB	53	49	0	0	74	35	26	65
3.	59*	50746537	5578	"BIGDB	59	42	1	0	74	40	21	53
4.	41*	1678984	5636	"BIGDB	34	69	0	0	58	43	14	31
5.	35*	873949	5635	"BIGDB	35	67	0	0	61	47	11	31



conc = $\frac{166049}{210859} \times 50$

= 39.0

Unknown

MS data file header from : >BC240::D4

Sample: 920045-03 CH#09 Operator: VOA2 REG. GRP. 2/03/92 18:52
Misc : ID#MS2 HALLIBURTON NUS E-S-03 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Benzene, 1,2,3-trimethyl- (8CI9CI) 120 C9H12
2. Benzene, (1-methylethyl)- (9CI) 120 C9H12
3. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
4. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12
5. Benzene, 1-ethyl-3-methyl- (9CI) 120 C9H12

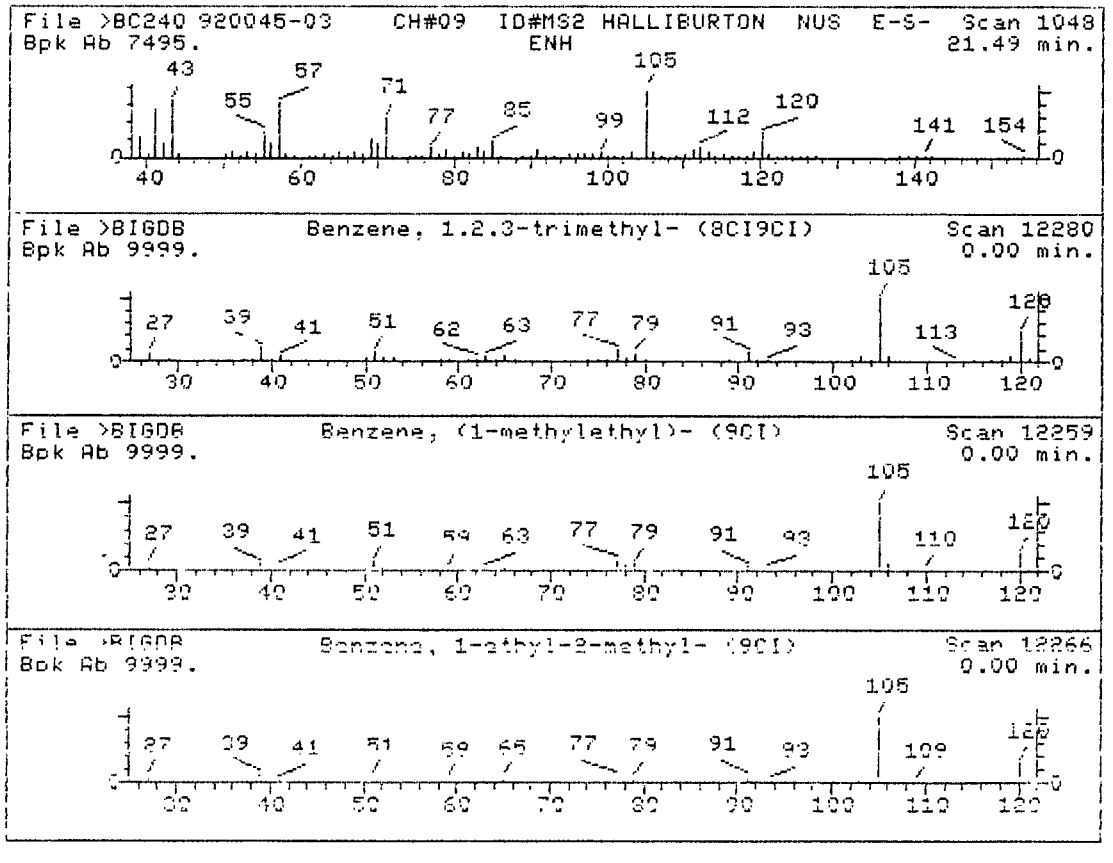
Sample file: >BC240 Spectrum #: 1048
Search speed: 2 Tilting option: S No. of ion ranges searched: 90

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	50*	526738	12280	"BIGDB	78	22	2	0	68	50	14	60
2.	41*	98828	12259	"BIGDB	62	25	1	0	77	55	11	63
3.	40*	611143	12266	"BIGDB	65	20	2	2	94	49	12	46
4.	39*	622968	12268	"BIGDB	59	26	1	0	77	53	11	61
5.	36*	620144	12267	"BIGDB	65	22	2	0	100	52	10	55

C3-benzene isomer

$$conc = \frac{233184}{210859} \times 50$$

$$= 55.0$$



AK

Unknown

JJ

MS data file header from : >BC240::D4

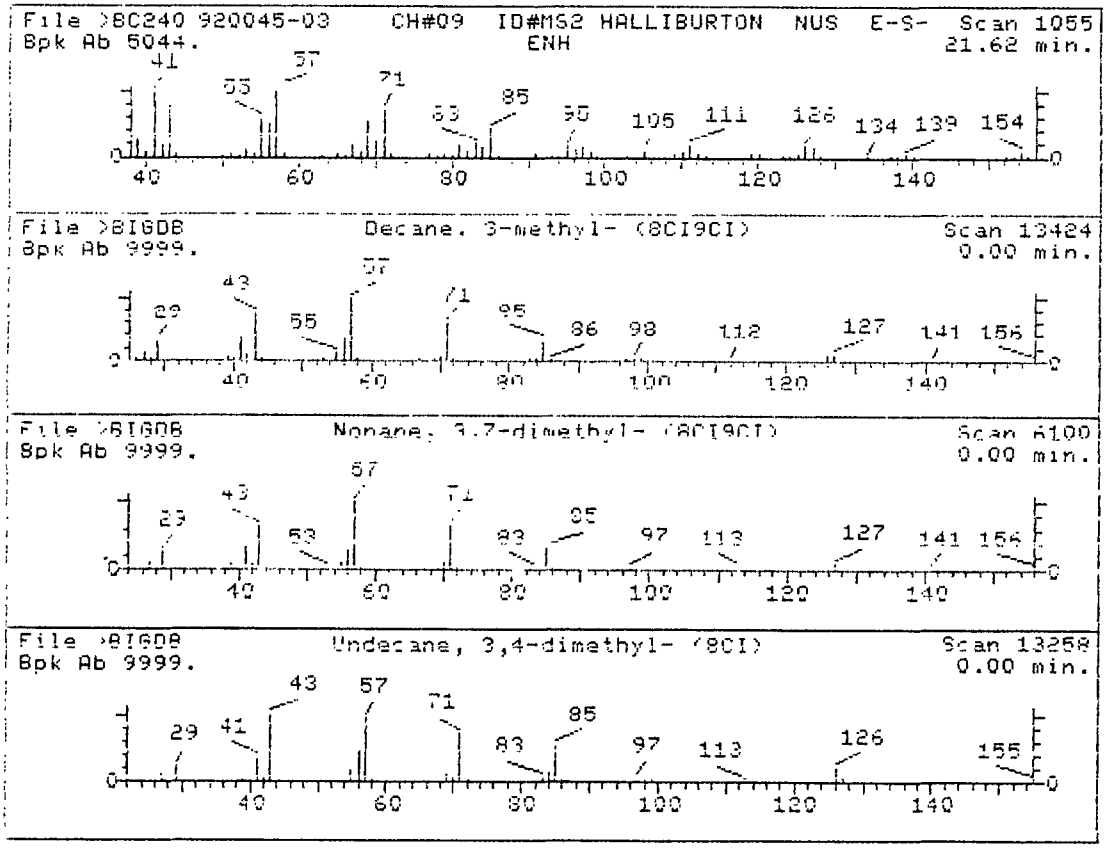
Sample: 920045-03 CH#09 Operator: VOA2 REG. GRP. 2/03/92 18:52
Misc : ID#MS2 HALLIBURTON NUS E-S-03 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Decane, 3-methyl- (8CI9CI) 156 C11H24
2. Nonane, 3,7-dimethyl- (8CI9CI) 156 C11H24
3. Undecane, 3,4-dimethyl- (8CI) 184 C13H28
4. Nonane, 5-(2-methylpropyl)- (9CI) 184 C13H28
5. Nonane, 5-(1-methylpropyl)- (9CI) 184 C13H28

Sample file: >BC240 Spectrum #: 1055
Search speed: 2 Tilting option: S No. of ion ranges searched: 55

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	81*	13151343	13424	"BIGDB	62	32	0	0	100	16	45	74
2.	69*	17302328	6100	"BIGDB	50	36	0	0	100	32	26	60
3.	58	17312786	13258	"BIGDB	66	50	1	0	77	18	25	23
4.	53	62185539	13288	"BIGDB	69	40	0	0	71	38	19	44
5.	43	62185540	13289	"BIGDB	69	53	1	0	74	32	16	26



conc = $\frac{178919}{210859} \times 50$

= 42.

169

Aliphatic hydrocarbon

MS data file header from : >BC240::D4

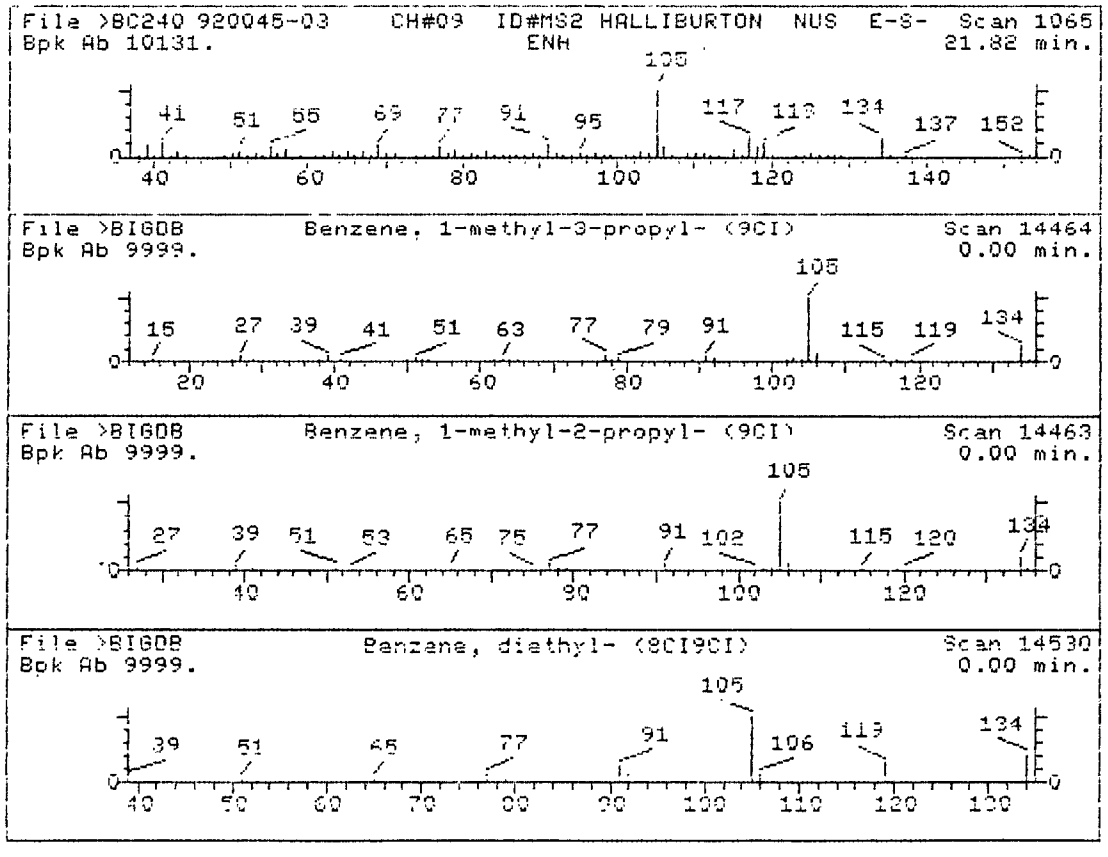
Sample: 920045-03 CH#09 Operator: VOA2 REG. GRP. 2/03/92 18:52
Misc : ID#MS2 HALLIBURTON NUS E-S-03 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Benzene, 1-methyl-3-propyl- (9CI) 134 C10H14
2. Benzene, 1-methyl-2-propyl- (9CI) 134 C10H14
3. Benzene, diethyl- (8CI9CI) 134 C10H14
4. Benzene, 1-methyl-4-propyl- (9CI) 134 C10H14
5. Benzene, (1,2,2-trimethyl-3-butenyl)- (9CI) 174 C13H18

Sample file: >BC240 Spectrum #: 1065
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	87*	1074437	14464	"BIGDB	71	16	0	2	99	34	40	89
2.	70*	1074175	14463	"BIGDB	57	28	0	0	96	35	32	71
3.	67*	25340174	14530	"BIGDB	64	31	1	2	68	27	27	54
4.	65*	1074551	14465	"BIGDB	42	41	0	0	100	35	24	54
5.	25	61142174	9915	"BIGDB	38	48	2	0	100	47	7	12



~~C3~~ C4-benzene isomer

$$\text{conc} = \frac{232127}{210859} \times 50 = 55.0$$

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-S-01

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-04

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C9270

Level: (low/med) MED Date Received: 02/01/92

% Moisture: not dec. 12 Date Analyzed: 02/05/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1400	U
74-83-9	Bromomethane	1400	U
75-01-4	Vinyl Chloride	1400	U
75-00-3	Chloroethane	1400	U
75-09-2	Methylene Chloride	1800	
67-64-1	Acetone	1400	U
75-15-0	Carbon Disulfide	1400	U
75-35-4	1,1-Dichloroethene	1400	U
75-34-3	1,1-Dichloroethane	1400	U
540-59-0	1,2-Dichloroethene (total)	1400	U
67-66-3	Chloroform	1400	U
107-06-2	1,2-Dichloroethane	1400	U
78-93-3	2-Butanone	1400	U
71-55-6	1,1,1-Trichloroethane	7200	
56-23-5	Carbon Tetrachloride	1400	U
75-27-4	Bromodichloromethane	1400	U
78-87-5	1,2-Dichloropropane	1400	U
10061-01-5	cis-1,3-Dichloropropene	1400	U
79-01-6	Trichloroethene	180	J
124-48-1	Dibromochloromethane	1400	U
79-00-5	1,1,2-Trichloroethane	1400	U
71-43-2	Benzene	1400	U
10061-02-6	trans-1,3-Dichloropropene	1400	U
75-25-2	Bromoform	1400	U
108-10-1	4-Methyl-2-Pentanone	1400	U
591-78-6	2-Hexanone	1400	U
127-18-4	Tetrachloroethene	1400	U
79-34-5	1,1,2,2-Tetrachloroethane	1400	U
108-88-3	Toluene	1400	U
108-90-7	Chlorobenzene	1400	U
100-41-4	Ethylbenzene	2800	
100-42-5	Styrene	1400	U
1330-20-7	Xylene (total)	4700	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-04

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-04

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C9270

Level: (low/med) MED Date Received: 02/01/92

% Moisture: not dec. 12 Date Analyzed: 02/05/92

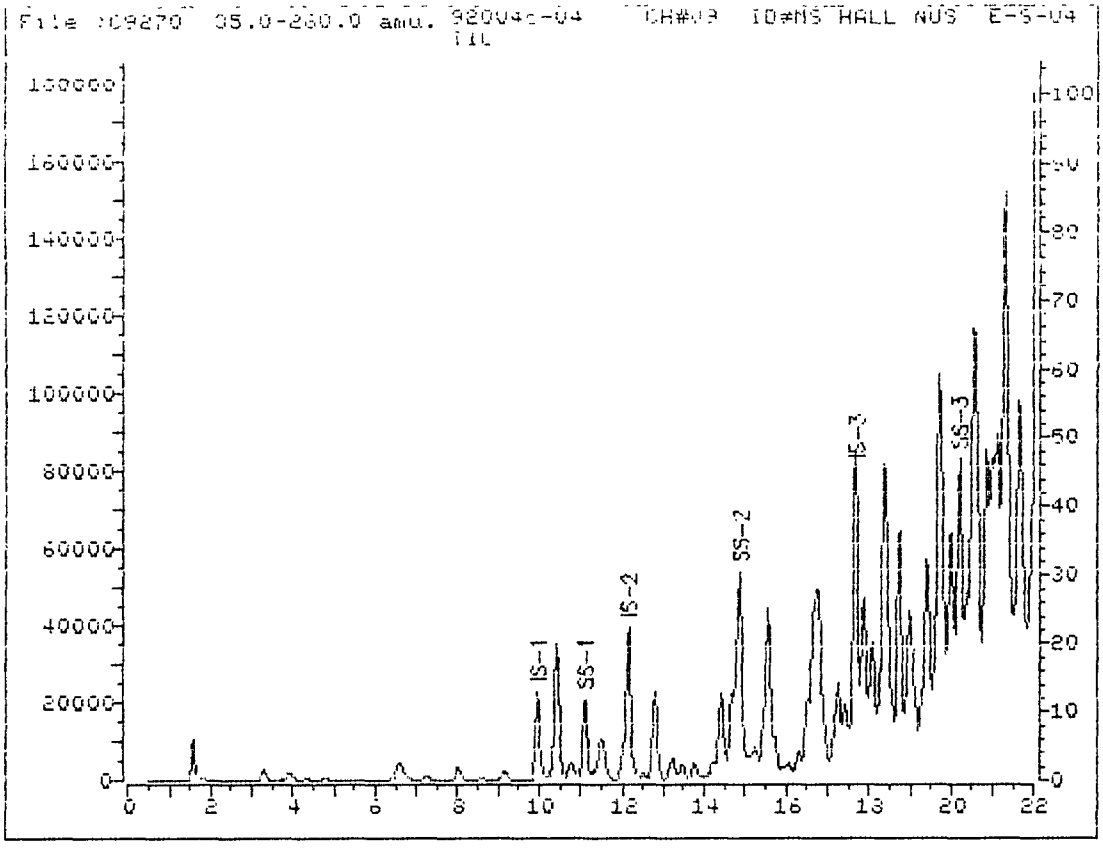
GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 15

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	Unknown	11.51	5300	J
2. 000000	C7H14 isomer	12.80	4000	J
3. 000000	Aliphatic hydrocarbon	14.40	3600	J
4. 000000	Aliphatic hydrocarbon	15.56	7100	J
5. 000000	Trimethylcyclohexane isomer	16.77	14000	J
6. 000000	Trimethylcyclohexane isomer	17.26	3800	J
7. 000000	Aliphatic hydrocarbon	18.75	4500	J
8. 000000	C9H18 isomer	19.00	4300	J
9. 000000	Unknown	19.41	5800	J
10. 000000	Unknown	19.72	11000	J
11. 000000	Unknown	20.00	3100	J
12. 000000	Unknown	20.55	11000	J
13. 000000	C3-benzene isomer	20.86	5000	J
14. 000000	Unknown	21.29	13000	J
15. 000000	Unknown	21.64	6800	J



MS data file header from : >C9270::D5

Sample: 920045-04 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:44
Misc : ID#MS HALL NUS E-S-04 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

Operator ID: VOA. Quant Meth: . Quant Time: 920206 00:28
Output File: L9270:01 Injected On: 920205 23:44
Data File: *L9270:05 Dilution Factor: 1.00000
Name: 920049-04 CH#09 Instrument ID: M55
Misc: ID#MS HALL NUS E-5-04 MED SOIL 46/10ML*100UL*15 LH

ID File: V510:*5L
Title: VOLATILE ANALYSIS LEAP-ILL UG624 30M*0.5510*3UM ID#MS5
Last Calibration: 910429 11:21 Last Qcal Time: 920205 21:45

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	9.97	128.0	30387	50.00	UG/L	82
6)	C050 Methylene Chloride	6.57	84.0	10413	12.59	UG/L	72
13)	CS15 1,2-Dichloroethane-d4	11.12	65.0	48593	51.11	UG/L 102%	96
16)	*CI10 1,4-Difluorobenzene	12.15	114.0	120683	50.00	UG/L	100
17)	C115 1,1,1-Trichloroethane	10.42	97.0	90416	50.61	UG/L	82
18)	C120 Carbon Tetrachloride Ratio off	~~10.42~~	~~117.0~~	~~12278~~	~~5.46~~	~~UG/L~~	94
22)	C150 Trichloroethene	12.51	130.0	1770	1.25	UG/L	95
25)	C165 Benzene Ratio off	~~11.14~~	~~78.0~~	~~1756~~	~~1.11~~	~~UG/L~~	100
28)	*CI20 Chlorobenzene-d5	17.69	117.0	110633	50.00	UG/L	99
30)	C205 4-Methyl-2-Pentanone Ratio	~~14.42~~	~~43.0~~	~~29596~~	~~143.37~~	~~UG/L~~	51
31)	C220 Tetrachloroethene	16.05	164.0	1673	~~.918~~	UG/L	95
33)	C230 Toluene	14.99	91.0	1627	~~.624~~	UG/L	95
34)	CS05 Toluene d-8	14.87	98.0	108697	46.57	UG/L 93%	95
35)	C235 Chlorobenzene	17.65	112.0	1697	~~.675~~	UG/L	86
36)	C240 Ethylbenzene	18.08	106.0	19237	19.72	UG/L	96
38)	C250 Total Xylenes	18.35	106.0	37352M	32.91	UG/L	82
39)	CS10 Bromofluorobenzene	20.19	95.0	75967	42.92	UG/L 86%	85

* Compound is IS10

JM

Chromatographic times, min. : 5.0 0.0 15.0 0.0 0.0
Chromatographic rate, deg/min: 6.0 50.0 0.0 1.5 0.0

>C9270 920045-04 CH#09 ID#MS HALL NUS E-S-04 MED SOIL 4G/1

35.0| 260.0 TIC
Upslope: .2000 Area Reject:10.00 % Max Peaks: 27 Bunch: 1 Valley >100 %
Dnslope: 0.0000 Results File VDIR87 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	9.95	477	484	497	22609	179508	175289	18.33	1.800
2	10.42	499	508	519	34911	303347	294902*	30.84	3.029
3	11.10	536	543	551	20419	160235	150490*	15.74	1.546
4	11.51	551	564	580	10593	136855	128557	13.45	1.320
5	12.15	583	597	611	39338	351591	342689	35.84	3.520
6	12.80	621	630	641	22837	198751	191059	19.98	1.962
7	14.40	705	712	720	19777	220184	169361*	17.71	1.740
8	14.70	720	727	728	18309	159209	121571*	12.71	1.249
9	14.87	729	736	745	48117	521085	421983*	44.13	4.334
10	15.56	761	771	778	39066	452183	344301	36.01	3.536
11	16.53	814	821	823	16750	170094	117067*	12.24	1.202
12	16.77	823	833	847	44217	818031	665491	69.60	6.835
13	17.26	848	858	863	19403	284206	186206	19.47	1.913
14	17.67	872	879	885	71916	716189	512535	53.60	5.264
15	17.88	885	890	895	29015	411757	192259*	20.11	1.975
16	18.08	896	900	906	18841	311658	110390	11.55	1.134
17	18.37	907	915	928	66364	1051394	673710	70.46	6.920
18	18.75	928	934	940	49318	539496	323733	33.86	3.325
19	19.00	940	947	957	31037	567215	304250	31.82	3.125
20	19.41	957	968	975	44497	700752	422296	44.17	4.337
21	19.72	975	984	992	81313	1258810	785991	82.20	8.073
22	20.00	992	998	1003	31219	645472	222689	23.29	2.287
23	20.19	1003	1008	1014	45453	759069	269056	28.14	2.764
24	20.55	1020	1026	1036	80968	1480099	807994	84.50	8.299
25	20.86	1036	1042	1045	49893	734842	356669	37.30	3.663
26	21.29	1059	1064	1075	110635	1729424	956156	100.00	9.821
27	21.64	1076	1082	1092	58901	1230567	489260	51.17	5.025

Sum of corrected areas: 9735954.

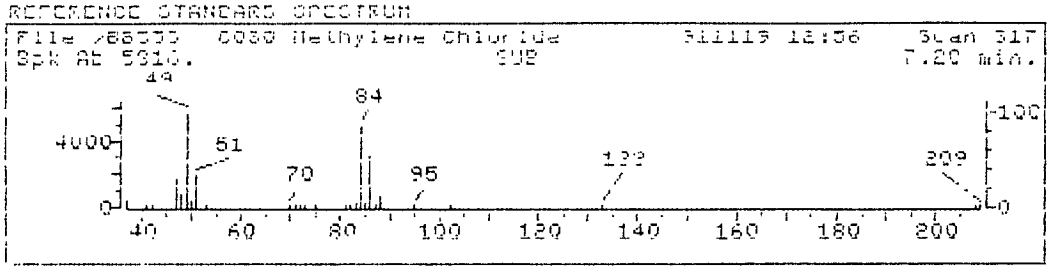
TIC

only 15 required

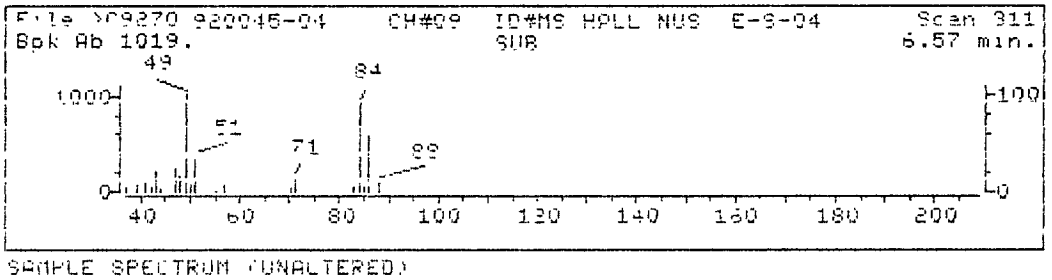
15

O/C

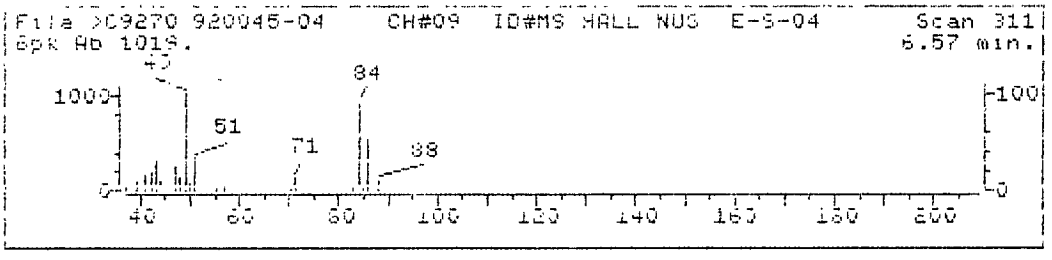
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

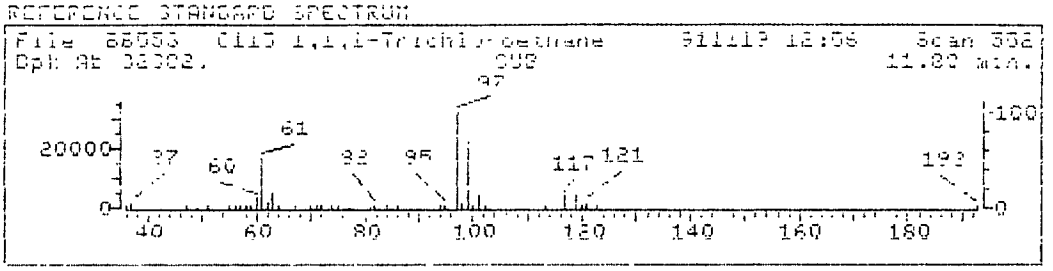


Data File: >C9270::D5 Quant Output File: >C9270::QT
Name: 920046-04 CH#09 Instrument ID: MS5
Misc: ID#MS HALL NUS E-S-04 MLU SOIL 46/10MLX100UL+15 LH
Quant Time: 920206 00:28 Quant ID File: V>1D::SC
Injected at: 920205 23:44 Last Calibration: 910429 11:21
Last Qcal Time: 920205 21:45

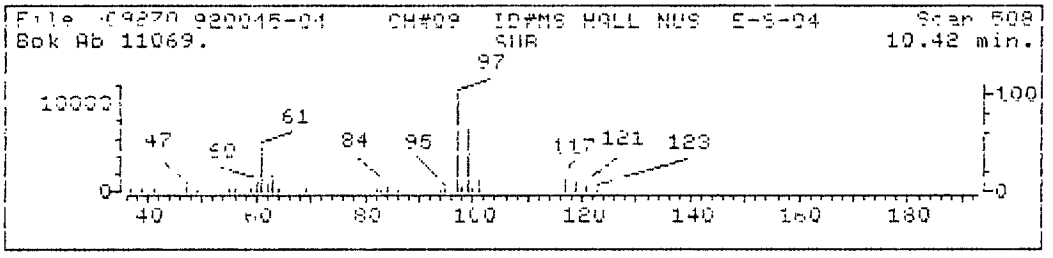
Compound No : 6
Compound Name : C030 Methylene Chloride
Scan Number : 311
Retention Time: 6.57 min.
Quant Ion : 84.0
Area : 10413
Concentration : 12.59 UG/L
q-value : 72

CB

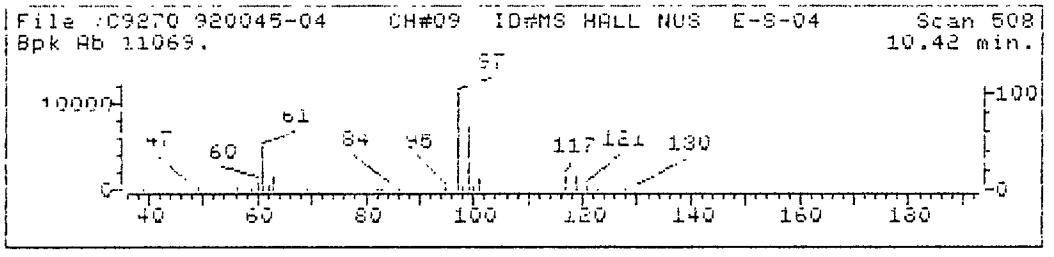
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

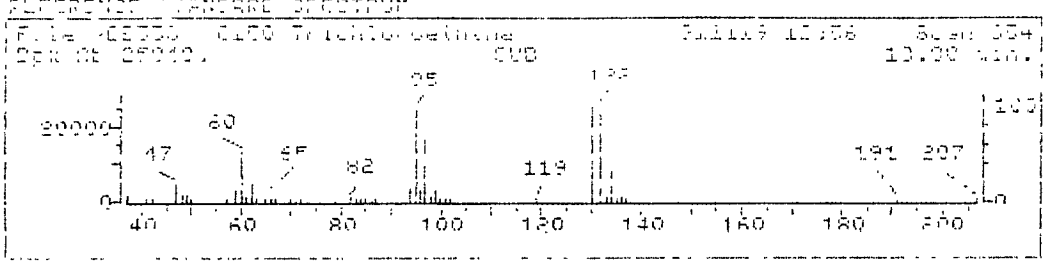


Data File: >C9270::D5 Quant Output File: ^C9270::QT
Name: 920045-04 CH#09 Instrument ID: MS5
Misc: ID#MS HALL NUS E-S-04 MED SOIL 4G/10MLX100UL+IS 1H
Quant Time: 920206 00:28 Quant ID File: V3ID::SL
Injected at: 920205 23:44 Last Calibration: 910429 11:21
Last Qcal Time: 920205 21:45

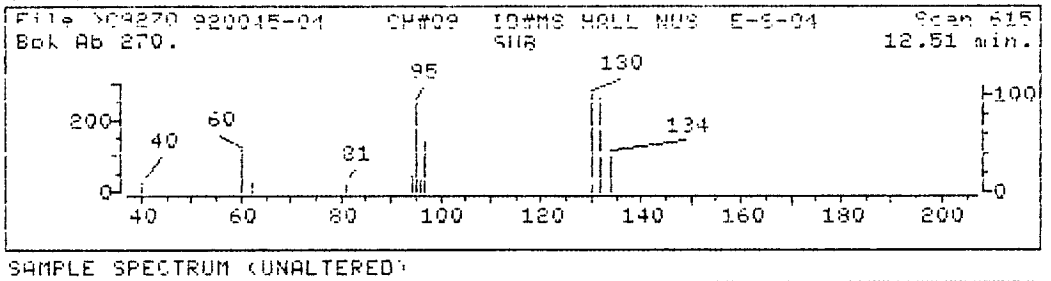
Compound No : 17
Compound Name : C115 1,1,1-Trichloroethane
Scan Number : 508
Retention Time: 10.42 min.
Quant Ion : 97.0
Area : 90416
Concentration : 50.61 UG/L
q-value : 87

CB

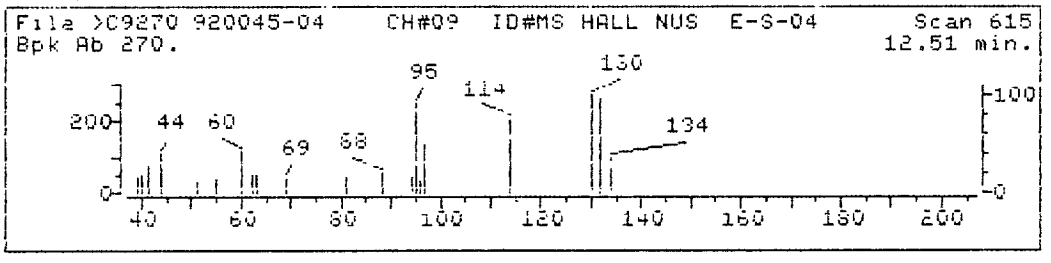
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

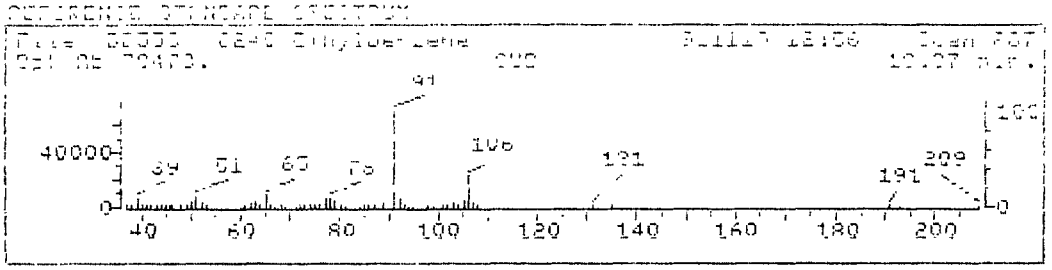


Data File: >C9270::D5 Quant Output File: >C9270::QT
Name: 920045-04 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-04 MED SOIL 4G/10MLX100UL+IS 1H
Quant Time: 920206 00:28 Quant ID File: V5ID::SC
Injected at: 920205 23:44 Last Calibration: 910429 11:21
Last Qcal Time: 920205 21:45

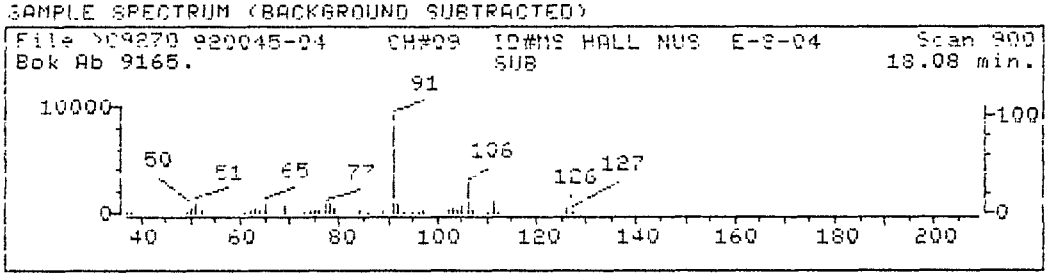
Compound No : 22
Compound Name : C150 Trichloroethane
Scan Number : 615
Retention Time: 12.51 min.
Quant Ion : 130.0
Area : 1720
Concentration : 1.25 UG/L
q value : 95

CB

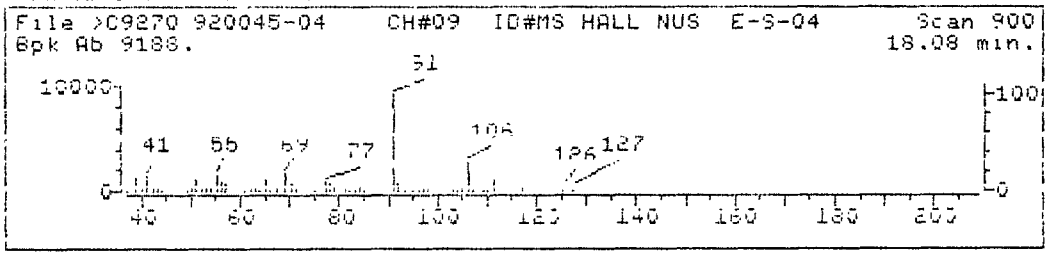
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

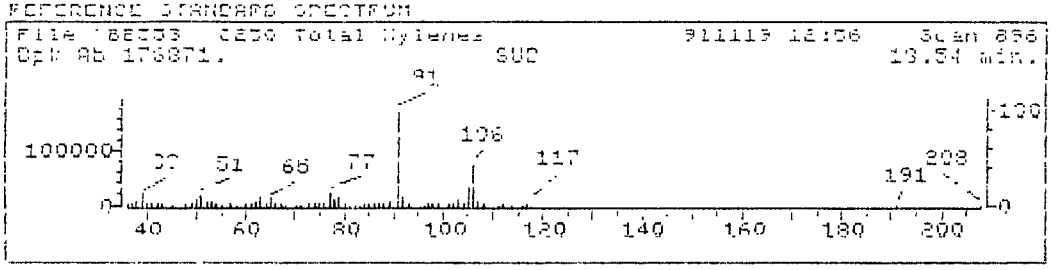


Data File: >C9270::09 Quant Output File: >C9270::WI
Name: 920045-04 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-04 MED SOIL 46.10MLX100UL+IS 1.0
Quant Time: 920206 00:28 Quant ID File: USID::SL
Injected at: 920205 23:44 Last Calibration: 910429 11:21
Last Qcal Time: 920205 21:45

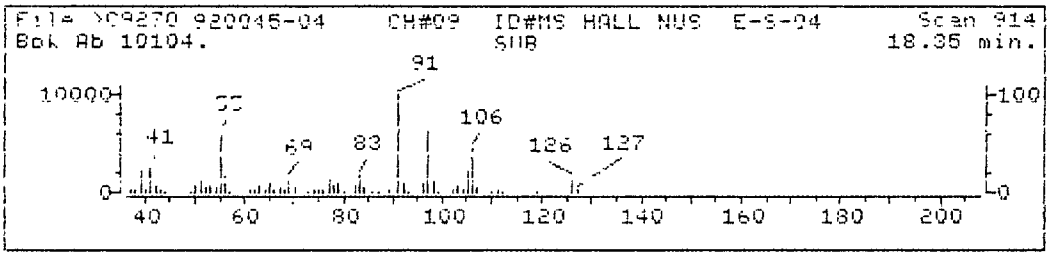
Compound No : 36
Compound Name : C240 Ethylbenzene
Scan Number : 900
Retention Time: 18.08 min.
Quant Ion : 106.0
Area : 19237
Concentration : 19.72 UG/L
q value : 96

CB

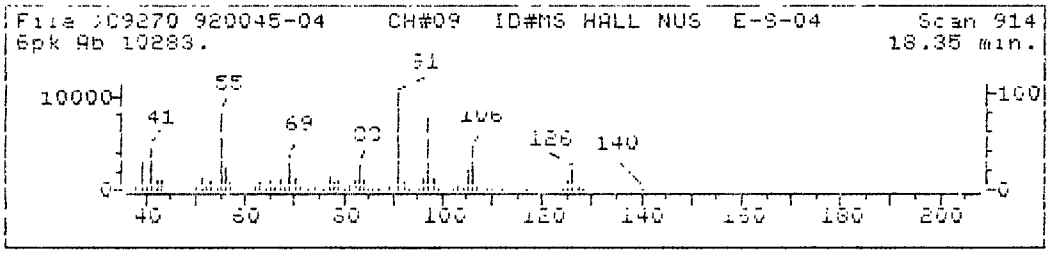
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >C9270::D5 Quant Output File: ^C9270::Q1
Name: 920045-04 CH#09 Instrument Id: MS3
Misc: ID#MS HALL NUS E-S-04 MED SOIL 4G/10MLX100UL+1S LH
Quant Time: 920206 00:28 Quant ID File: V5ID::SC
Injected at: 920205 23:44 Last Calibration: 910429 11:21
Last Qcal Time: 920205 21:45

Compound No : 58
Compound Name : C250 Total Xylenes
Scan Number : 914
Retention Time: 18.35 min.
Quant Ion : 106.0
Area : 37552M
Concentration : 32.91 UG/L
q-value : 82

CB

MS data file header from : >C9270::D5

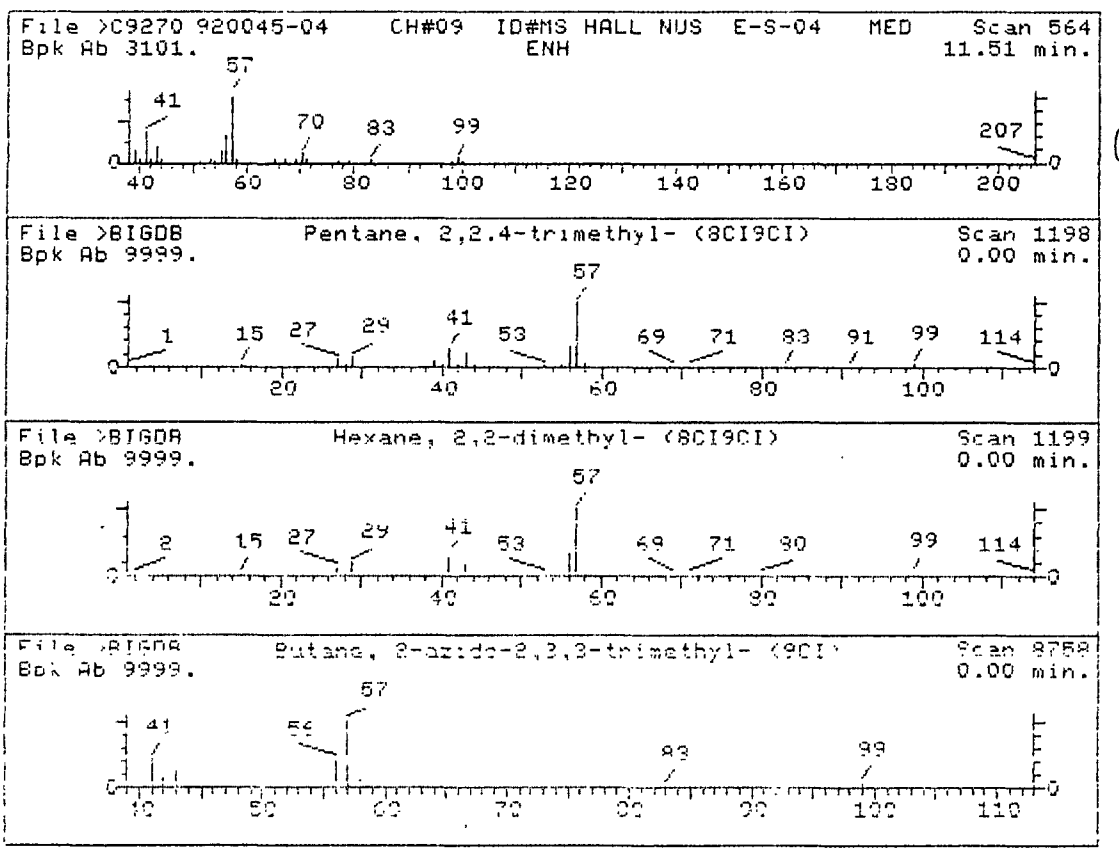
Sample: 920045-04 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:44
Misc : ID#MS HALL NUS E-S-04 MED SOIL 4G/10MLX100UL+1S LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Pentane, 2,2,4-trimethyl- (8CI9CI) 114 C8H18
2. Hexane, 2,2-dimethyl- (8CI9CI) 114 C8H18
3. Butane, 2-azido-2,3,3-trimethyl- (9CI) 141 C7H15N3
4. Hexane, 2,2,5,5-tetramethyl- (8CI9CI) 142 C10H22
5. Methane, isocyanato- (9CI) 57 C2H3NO

Sample file: >C9270 Spectrum #: 564
Search speed: 2 Tilting option: S No. of ion ranges searched: 44

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	60	540841	1198	"BIGDB	33	41	0	0	97	14	30	17
2.	60	590738	1199	"BIGDB	28	44	0	0	97	15	30	14
3.	60	51677419	8758	"BIGDB	39	26	2	0	99	12	30	13
4.	52	1071814	967	"BIGDB	39	40	2	0	92	19	20	13
5.	52*	624839	948	"BIGDB	23	41	1	0	100	19	20	14



conc = 128557 / 175289 x 50

= 37.0

C: 181

unknown

JJ

MS data file header from : >C9270::D5

Sample: 920045-04 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:44
Misc : ID#MS HALL NUS E-S-04 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

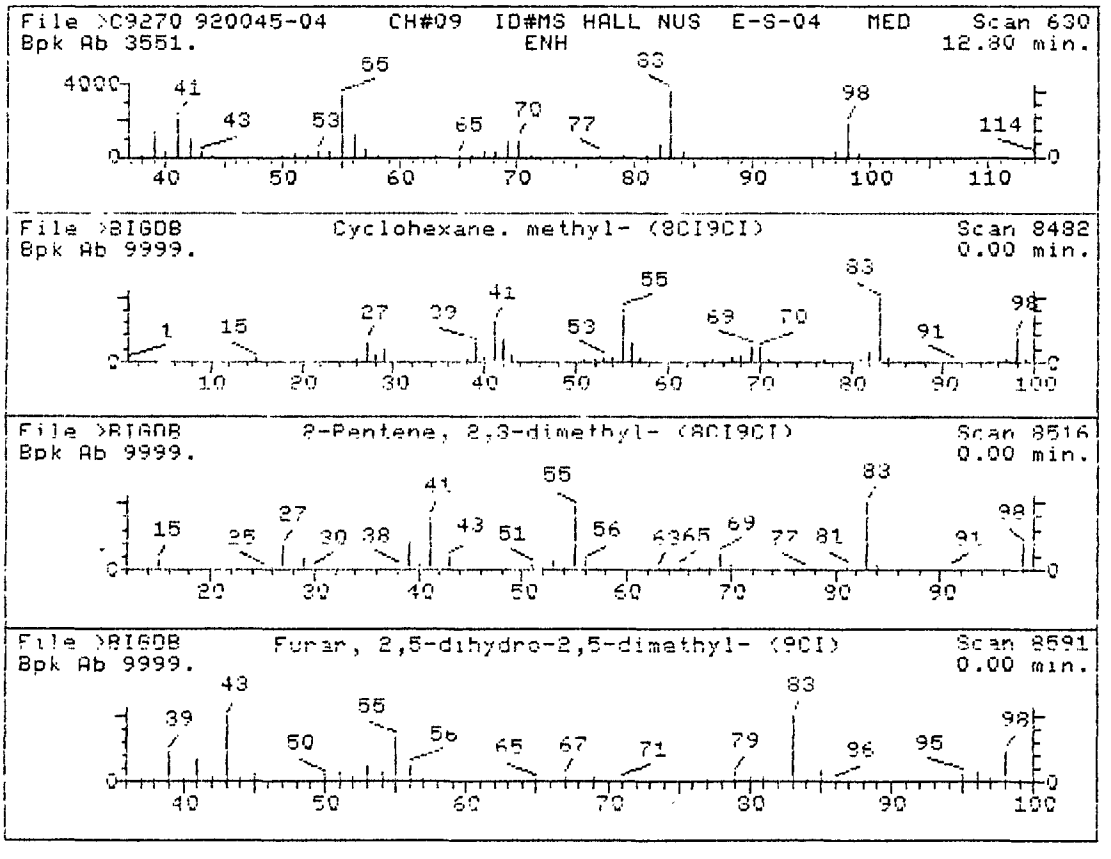
1. Cyclohexane, methyl- (8CI9CI) 98 C7H14
2. 2-Pentene, 2,3-dimethyl- (8CI9CI) 98 C7H14
3. Furan, 2,5-dihydro-2,5-dimethyl- (9CI) 98 C6H10O
4. 7-Oxabicyclo[4.1.0]heptane (8CI9CI) 98 C6H10O
5. 1H-Pyrazole, 4,5-dihydro-4,5-dimethyl- (9CI) 98 C5H10N2

Sample file: >C9270 Spectrum #: 630
Search speed: 2 Tilting option: S No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	81*	108872	8482	"BIGDB	77	26	1	0	94	19	45	74
2.	59*	10574375	8516	"BIGDB	64	37	2	-2	75	24	27	34
3.	52*	59242272	8591	"BIGDB	37	68	3	0	85	18	20	13
4.	52*	286204	5586	"BIGDB	35	80	3	0	81	20	20	13
5.	48*	28019945	8525	"BIGDB	51	42	2	0	100	33	20	32

C_7H_{14} isomer

$$conc = \frac{191059}{342059} \times 50 = 28\ ppb$$



GMC

~~unknown~~ 182

MS data file header from : >C9270::D5

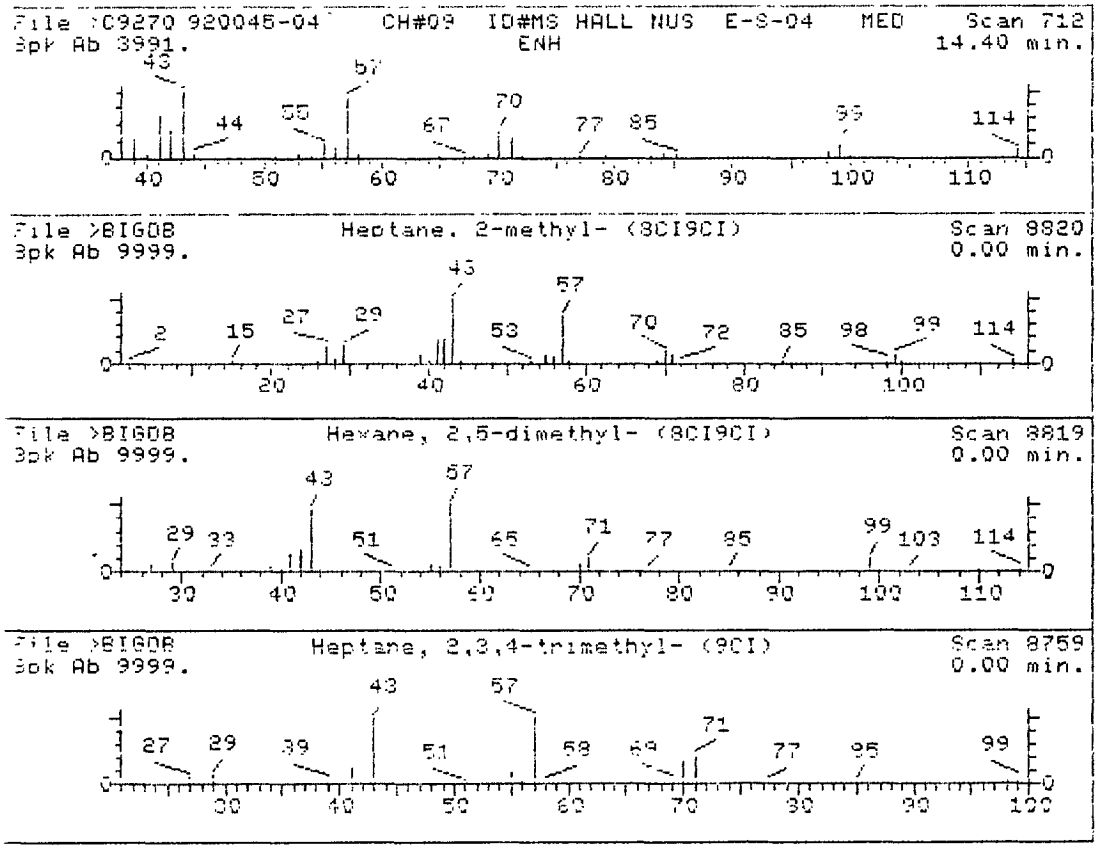
Sample: 920045-04 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:44
Misc : ID#MS HALL NUS E-S-04 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Heptane, 2-methyl- (8CI9CI) 114 C8H18
2. Hexane, 2,5-dimethyl- (8CI9CI) 114 C8H18
3. Heptane, 2,3,4-trimethyl- (9CI) 142 C10H22
4. Heptane, 3,3-dimethyl- (8CI9CI) 128 C9H20
5. Octane, 3,5-dimethyl- (8CI9CI) 142 C10H22

Sample file: >C9270 Spectrum #: 712
Search speed: 2 Tilting option: S No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	64*	592278	8820	"BIGDB	41	52	0	0	93	23	28	43
2.	45*	592132	8819	"BIGDB	43	47	2	0	89	26	19	23
3.	40	52896954	8759	"BIGDB	42	48	0	0	73	33	16	23
4.	40	4032864	3948	"BIGDB	65	30	2	0	89	34	16	23
5.	38	15869939	3611	"BIGDB	54	39	1	0	86	31	16	21



conc = $\frac{220184}{342689} \times 50$

= 25.0

Aliphatic hydrocarbon

189

MS data file header from : >C9270::D5

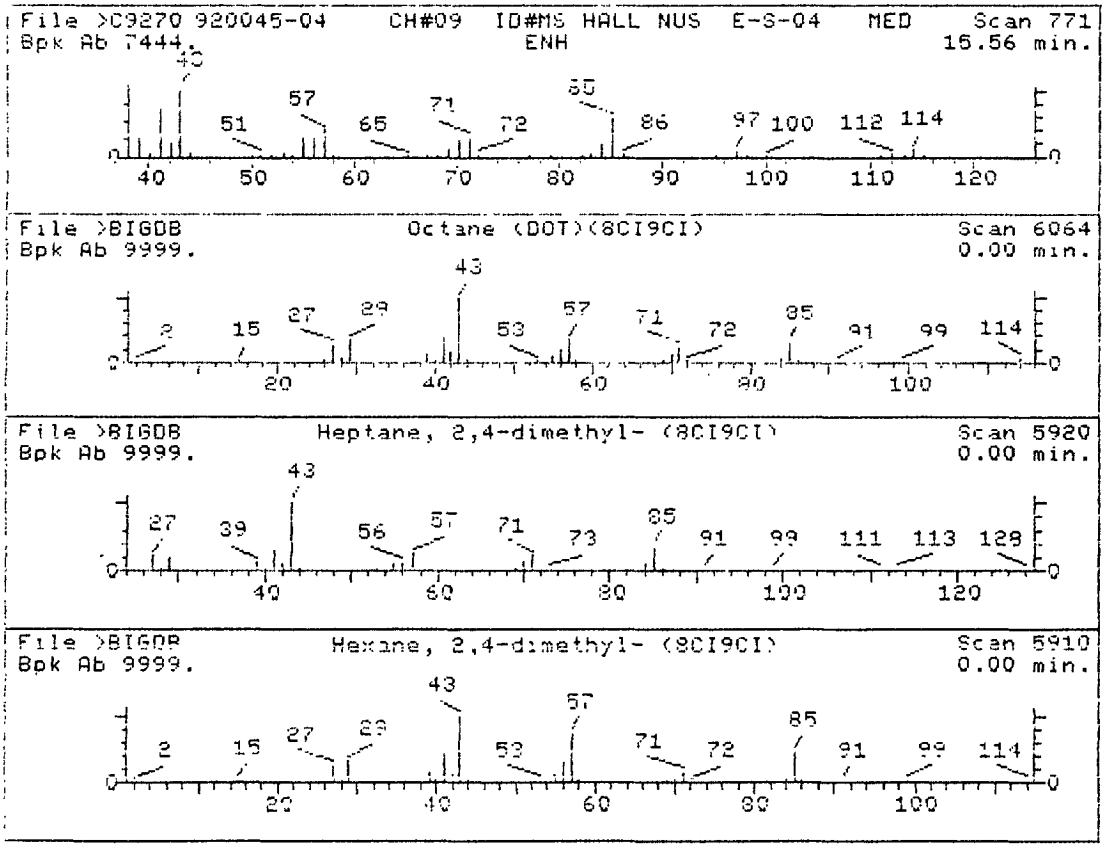
Sample: 920045-04 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:44
Misc : ID#MS HALL NUS E-S-04 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Octane (DOT)(8CI9CI) 114 C8H18
2. Heptane, 2,4-dimethyl- (8CI9CI) 128 C9H20
3. Hexane, 2,4-dimethyl- (8CI9CI) 114 C8H18
4. Hexane, 2,3,4-trimethyl- (8CI9CI) 128 C9H20
5. Hexane, 3-ethyl- (8CI9CI) 114 C8H18

Sample file: >C9270 Spectrum #: 771
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	51*	111659	6064	"BIGDB	46	47	0	0	100	45	17	54
2.	49	2213232	5920	"BIGDB	61	31	2	0	143	22	22	21
3.	38*	589435	5910	"BIGDB	39	59	2	0	98	29	14	15
4.	32	921471	5917	"BIGDB	48	42	1	0	98	37	10	18
5.	31*	619998	5913	"BIGDB	34	56	2	0	184	36	10	17



$$\text{conc} = \frac{344301}{342689} \times 50$$

$$= 50.0$$

Aliphatic hydrocarbon

184

MS data file header from : >C9270::D5

Sample: 920045-04 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:44
Misc : ID#MS HALL NUS E-S-04 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Cyclohexane, 1,1,3-trimethyl- (8CI9CI) 126 C9H18
2. 4-Octene, (E)- (8CI9CI) 112 C8H16
3. 2-Heptenal, (Z)- (9CI) 112 C7H12O
4. 3-Hexene, 2,5-dimethyl-, (E)- (8CI9CI) 112 C8H16
5. Cyclohexane, 1,1,2-trimethyl- (8CI9CI) 126 C9H18

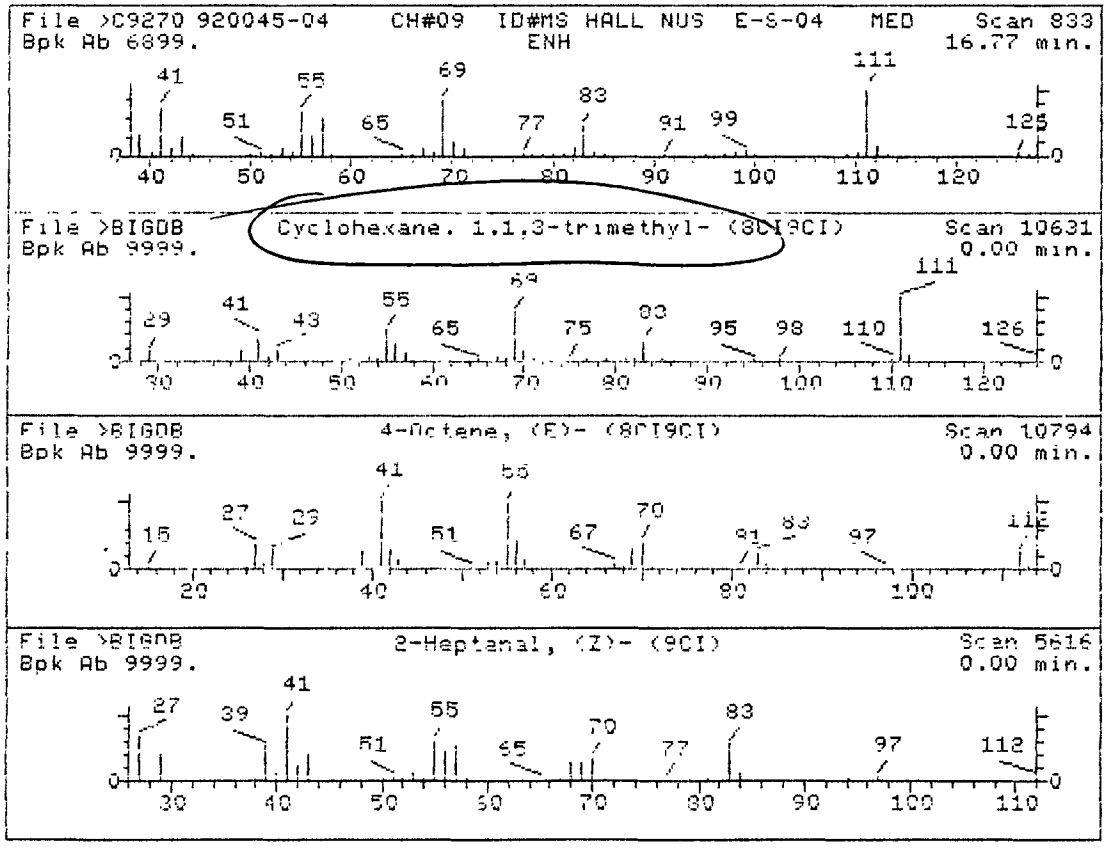
Sample file: >C9270 Spectrum #: 833
Search speed: 2 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	83*	3073663	10631	"BIGDB	60	39	0	0	100	13	51	73
2.	32*	14850238	10794	"BIGDB	43	44	2	1	44	31	12	15
3.	32*	57266861	5616	"BIGDB	43	52	2	1	39	33	12	15
4.	32*	692706	10767	"BIGDB	55	42	1	0	69	55	9	42
5.	30*	7094260	10632	"BIGDB	45	63	1	0	65	46	10	21

Trimethyl cyclohexane isomer

$$\text{conc} = \frac{665491}{342689} \times 50$$

$$= 97$$



MS data file header from : >C9270::D5

Sample: 920045-04 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:44
Misc : ID#MS HALL NUS E-S-04 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

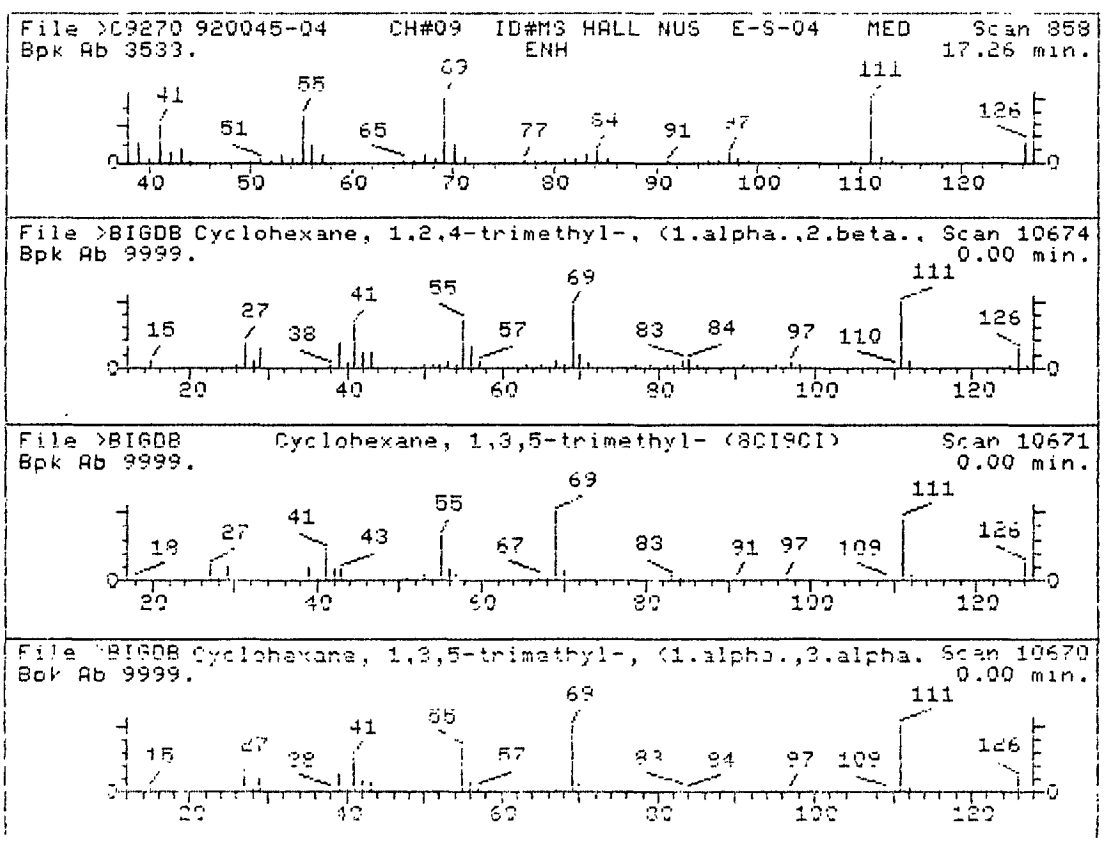
1. Cyclohexane, 1,2,4-trimethyl-, (1.alpha.,2.beta.,4.beta.)- (9CI) 126 C9H18
2. Cyclohexane, 1,3,5-trimethyl- (8CI9CI) 126 C9H18
3. Cyclohexane, 1,3,5-trimethyl-, (1.alpha.,3.alpha.,5.alpha.)- (9CI) 126 C9H18
4. Cyclohexane, 1,2,4-trimethyl- (8CI9CI) 126 C9H18
5. Cyclohexane, 1,3,5-trimethyl-, (1.alpha.,3.alpha.,5.beta.)- (9CI) 126 C9H18

Sample file: >C9270 Spectrum #: 858
Search speed: 2 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	84*	7667609	10674	"BIGDB	67	44	1	0	92	6	55	66
2.	79*	1839630	10671	"BIGDB	57	43	0	0	100	14	43	69
3.	76*	1795273	10670	"BIGDB	48	51	0	0	95	15	40	57
4.	76*	2234755	10672	"BIGDB	74	43	1	0	66	21	41	72
5.	74*	1795262	10669	"BIGDB	63	50	2	0	98	12	39	41

Trimethyl cyclohexane isomer

$$CMC = \frac{186206}{342689} \times 50 = 27$$



186

Unknown

MS data file header from : >C9270::D5

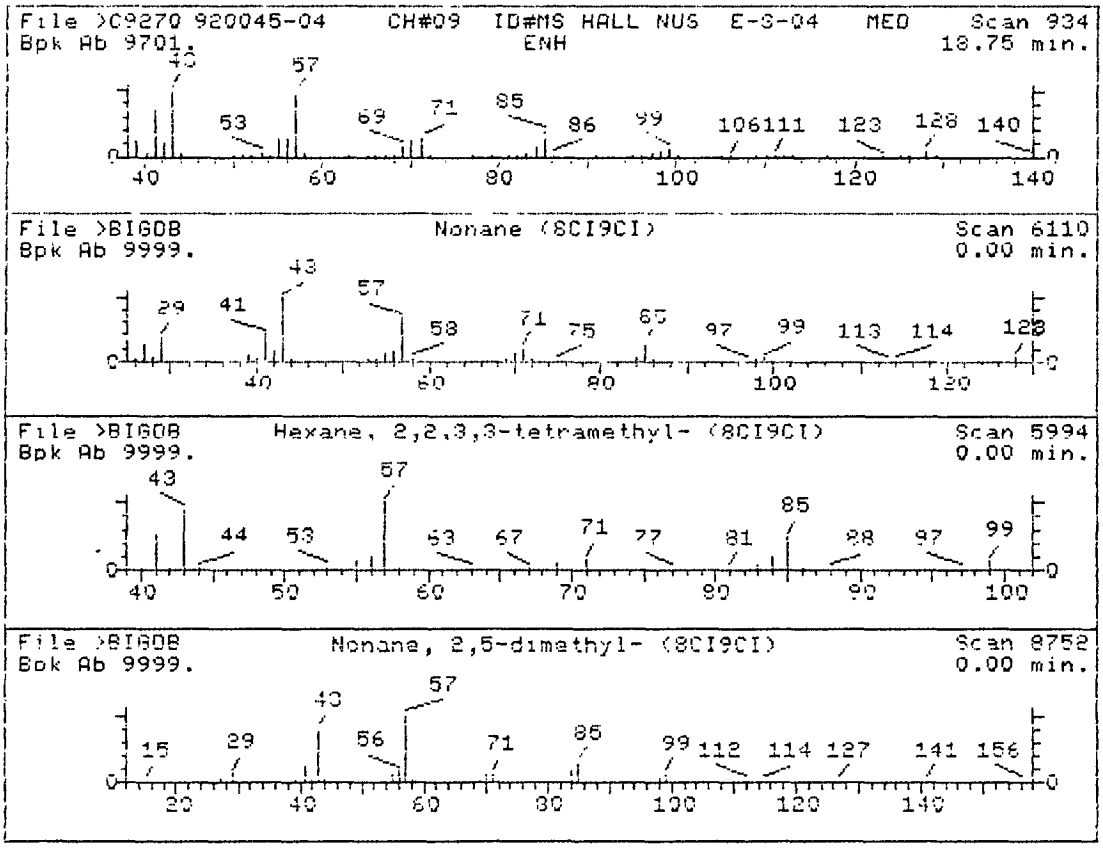
Sample: 920045-04 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:44
Misc : ID#MS HALL NUS E-S-04 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Nonane (8CI9CI) 128 C9H20
2. Hexane, 2,2,3,3-tetramethyl- (8CI9CI) 142 C10H22
3. Nonane, 2,5-dimethyl- (8CI9CI) 156 C11H24
4. Heptane, 2,3,4-trimethyl- (9CI) 142 C10H22
5. Hexane, 4-ethyl-2-methyl- (8CI9CI) 128 C9H20

Sample file: >C9270 Spectrum #: 934
Search speed: 2 Tilting option: S No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	111842	6110	"BIGDB	76	20	1	0	134	2	66	74
2.	64	13475815	5994	"BIGDB	69	26	0	0	77	25	28	49
3.	42	17302271	8752	"BIGDB	48	47	2	0	93	23	17	13
4.	39	52896954	8759	"BIGDB	45	45	0	0	65	36	14	26
5.	37*	3074757	8735	"BIGDB	31	58	0	0	93	39	14	24



conc = 323733 x 50 / 512535

= 32

187

Aliphatic hydrocarbon

JJ

MS data file header from : >C9270::D5

Sample: 920045-04 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:44
Misc : ID#MS HALL NUS E-S-04 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

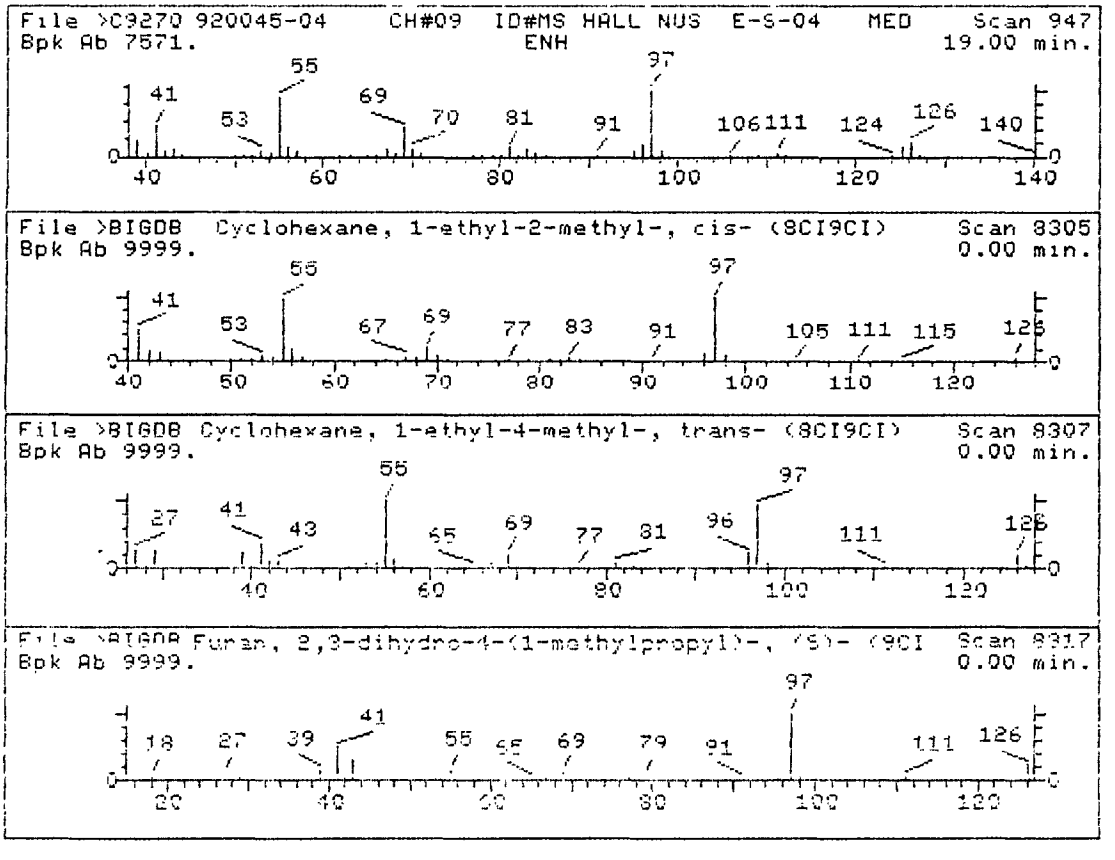
Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Cyclohexane, 1-ethyl-2-methyl-, cis- (8CI9CI) 126 C9H18
2. Cyclohexane, 1-ethyl-4-methyl-, trans- (8CI9CI) 126 C9H18
3. Furan, 2,3-dihydro-4-(1-methylpropyl)-, (S)- (9CI) 126 C8H14O
4. Cyclohexane, 1-ethyl-1-methyl- (8CI9CI) 126 C9H18
5. Cyclohexane, 1-methyl-2-propyl- (8CI9CI) 140 C10H20

Sample file: >C9270 Spectrum #: 947
Search speed: 2 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	79*	4923777	8305	"BIGDB	69	23	0	-3	71	12	43	69
2.	67*	6236880	8307	"BIGDB	46	50	0	0	72	26	27	54
3.	59*	34379549	8317	"BIGDB	49	39	2	0	97	25	27	30
4.	51*	4926903	8248	"BIGDB	46	45	1	0	79	26	19	29
5.	50	4291796	8341	"BIGDB	62	27	1	0	89	28	19	28

C_9H_{18} isomer



$conc = \frac{304250 \times 50}{512535}$

$= 30.$

OK

Unknown!

188

MS data file header from : >C9270::D5

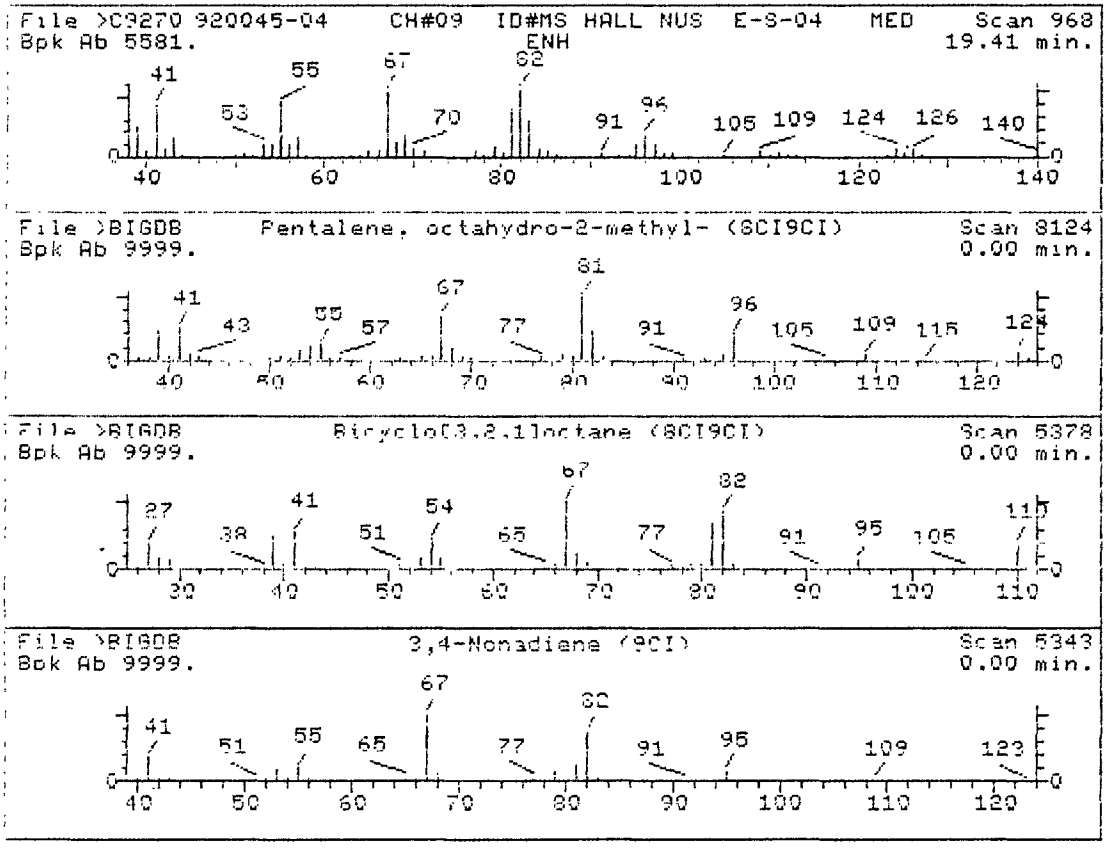
Sample: 920045-04 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:44
Misc : ID#MS HALL NUS E-S-04 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Pentalene, octahydro-2-methyl- (8CI9CI) 124 C9H16
2. Bicyclo[3.2.1]octane (8CI9CI) 110 C8H14
3. 3,4-Nonadiene (9CI) 124 C9H16
4. Cyclopropane, (2-methylenebutyl)- (9CI) 110 C8H14
5. 1,6-Heptadiene, 2,5-dimethyl- (9CI) 124 C9H16

Sample file: >C9270 Spectrum #: 968
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	62*	3868642	8124	"BIGDB	59	52	0	0	73	47	20	72
2.	43	6221552	5378	"BIGDB	67	46	2	0	90	23	17	14
3.	30	37050036	5343	"BIGDB	48	43	1	0	97	43	8	18
4.	28	74685566	5199	"BIGDB	69	42	2	1	66	40	10	14
5.	27*	68701906	3288	"BIGDB	26	78	3	0	185	40	10	13



Conc = $\frac{422296}{512535} \times 50$

= 41

Unknown

JJ

MS data file header from : >C9270::D5

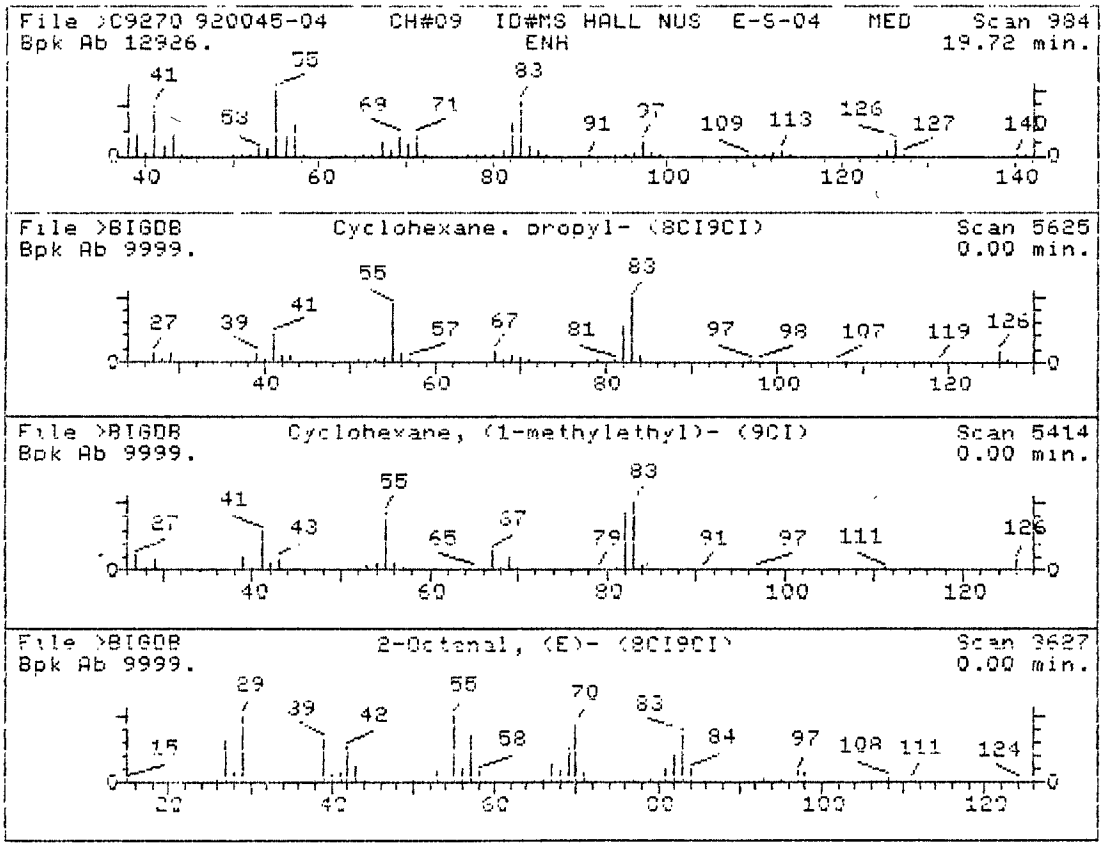
Sample: 920045-04 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:44
Misc : ID#MS HALL NUS E-S-04 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Cyclohexane, propyl- (8CI9CI) 126 C9H18
2. Cyclohexane, (1-methylethyl)- (9CI) 126 C9H18
3. 2-Octenal, (E)- (8CI9CI) 126 C8H14O
4. Cyclohexane, 2-propenyl- (9CI) 124 C9H16
5. Cyclopentane, 1-ethyl-1-methyl- (8CI9CI) 112 C8H16

Sample file: >C9270 Spectrum #: 984
Search speed: 2 Tilting option: S No. of ion ranges searched: 50

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	56*	1678928	5625	"BIGDB	40	57	0	0	83	33	22	41
2.	42*	696297	5414	"BIGDB	36	67	0	0	57	37	17	31
3.	36*	2548870	3627	"BIGDB	39	81	3	0	100	29	14	13
4.	32	2114423	5622	"BIGDB	65	34	2	0	83	41	12	23
5.	30*	16747505	5582	"BIGDB	33	71	1	0	83	44	8	18



$$conc = \frac{785991}{512435} \times 5^{D}$$

$= 77.$

Unknown

190

MS data file header from : >C9270::D5

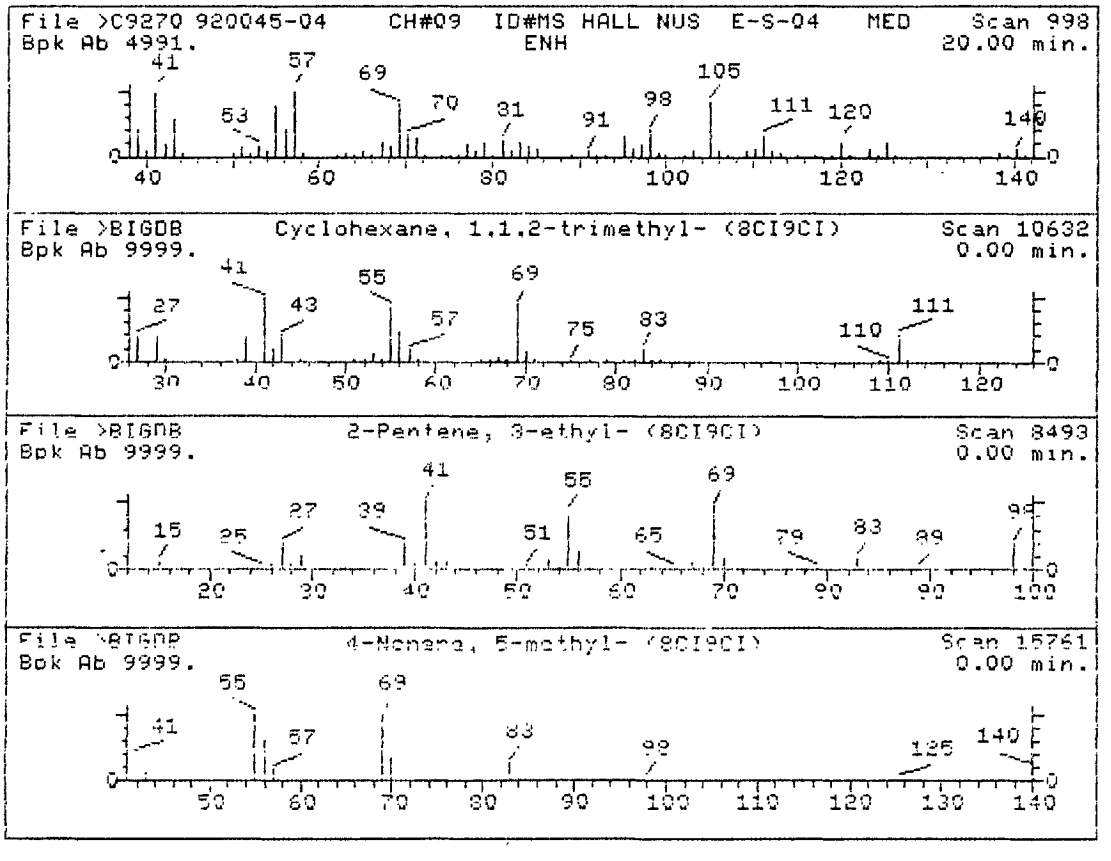
Sample: 920045-04 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:44
Misc : ID#MS HALL NUS E-S-04 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Cyclohexane, 1,1,2-trimethyl- (8CI9CI) 126 C9H18
2. 2-Pentene, 3-ethyl- (8CI9CI) 98 C7H14
3. 4-Nonene, 5-methyl- (8CI9CI) 140 C10H20
4. 3-Hexene, 2-methyl-, (E)- (8CI9CI) 98 C7H14
5. 3-Octene, 2,6-dimethyl- (8CI9CI) 140 C10H20

Sample file: >C9270 Spectrum #: 998
Search speed: 2 Tilting option: S No. of ion ranges searched: 67

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	69*	7094260	10632	"BIGDB	63	45	0	0	73	43	24	76
2.	66*	816795	8493	"BIGDB	60	49	0	0	84	43	24	73
3.	50*	15918077	15761	"BIGDB	41	42	0	0	58	41	17	53
4.	47*	692240	8492	"BIGDB	43	55	0	0	79	45	16	48
5.	40*	6874288	3743	"BIGDB	58	50	1	0	75	49	12	49



$$\text{conc} = \frac{222689}{512535} \times 50$$

$= 22.$

Unknown

191

MS data file header from : >C9270::D5

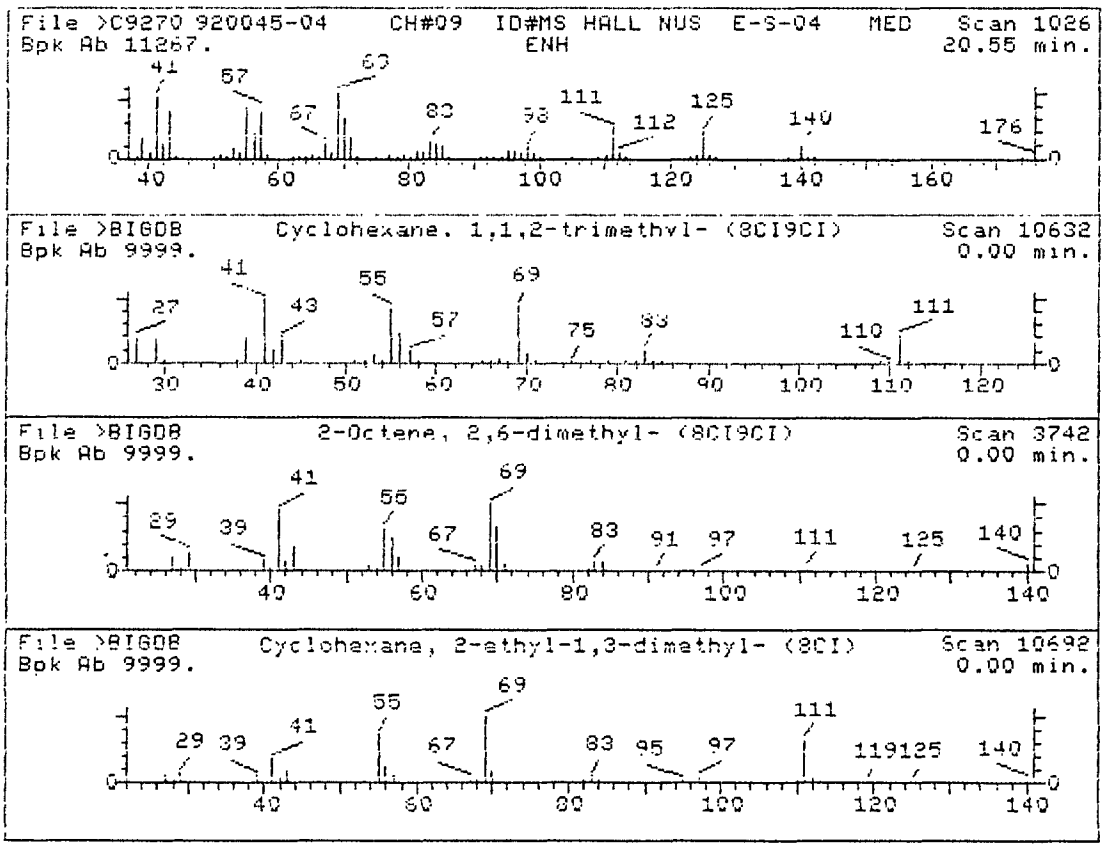
Sample: 920045-04 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:44
Misc : ID#MS HALL NUS E-S-04 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Cyclohexane, 1,1,2-trimethyl- (8CI9CI) 126 C9H18
2. 2-Octene, 2,6-dimethyl- (8CI9CI) 140 C10H20
3. Cyclohexane, 2-ethyl-1,3-dimethyl- (8CI) 140 C10H20
4. 4-Octene, 2,6-dimethyl-, [S-(E)]- (9CI) 140 C10H20
5. 4-Octene, 2,6-dimethyl-, [S-(Z)]- (9CI) 140 C10H20

Sample file: >C9270 Spectrum #: 1026
Search speed: 2 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	70*	7094260	10632	"BIGDB	64	44	0	0	82	45	24	77
2.	58*	4057425	3742	"BIGDB	44	60	0	0	79	40	19	49
3.	47*	7045672	10692	"BIGDB	42	58	0	0	72	42	16	44
4.	35*	62960763	15776	"BIGDB	42	58	1	0	125	37	14	22
5.	35*	62960774	3761	"BIGDB	41	58	1	0	125	37	14	22



$$\text{conc} = \frac{807994}{512535} \times 50$$

$$= 79$$

Unknown

MS data file header from : >C9270::D5

Sample: 920045-04 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:44
Misc : ID#MS HALL NUS E-S-04 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

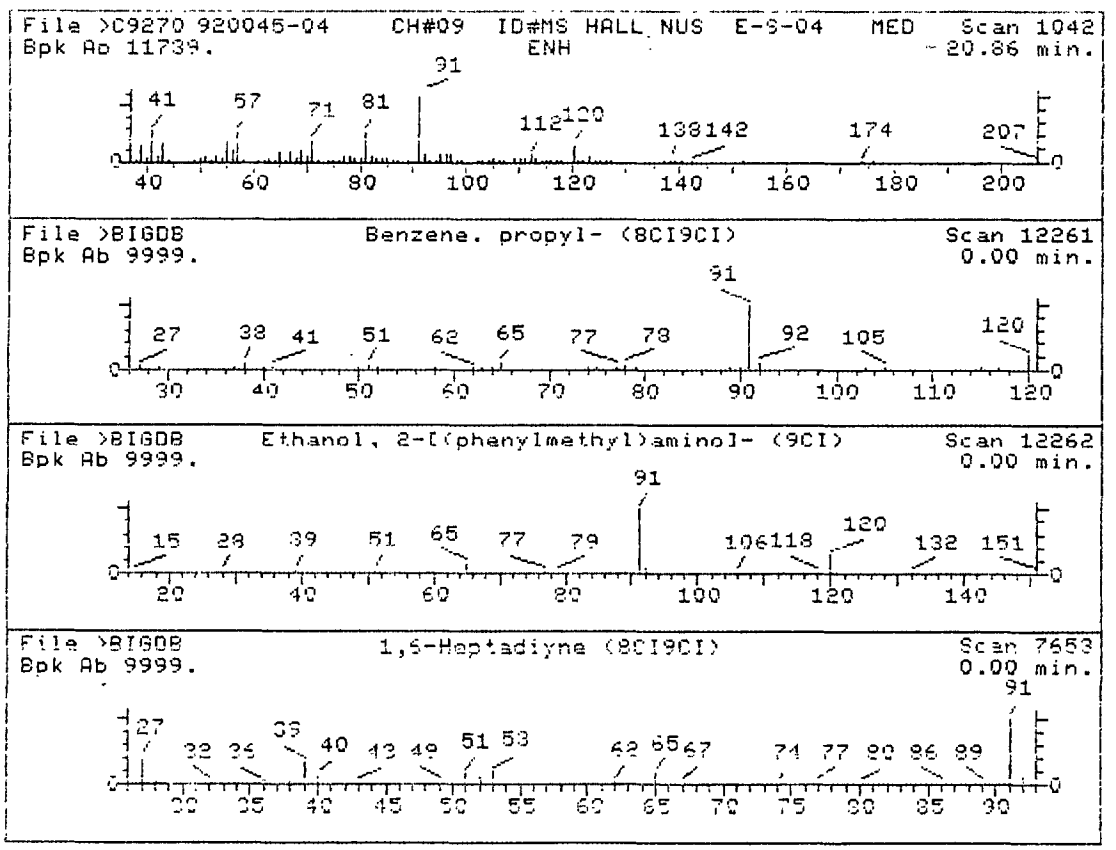
Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Benzene, propyl- (8CI9CI) 120 C9H12
2. Ethanol, 2-[(phenylmethyl)amino]- (9CI) 151 C9H13NO
3. 1,6-Heptadiyne (8CI9CI) 92 C7H8

Sample file: >C9270 Spectrum #: 1042
Search speed: 2 Tilting option: S No. of ion ranges searched: 78

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	46*	103651	12261	"BIGDB	52	33	2	0	100	36	17	35
2.	28	104632	12262	"BIGDB	42	37	2	0	81	38	10	14
3.	25*	2396636	7653	"BIGDB	25	71	2	0	96	47	7	14

C3-benzene isomer



$$conc = \frac{356669 \times 50}{512535} = 35.$$

Unknown

MS data file header from : >C9270::D5

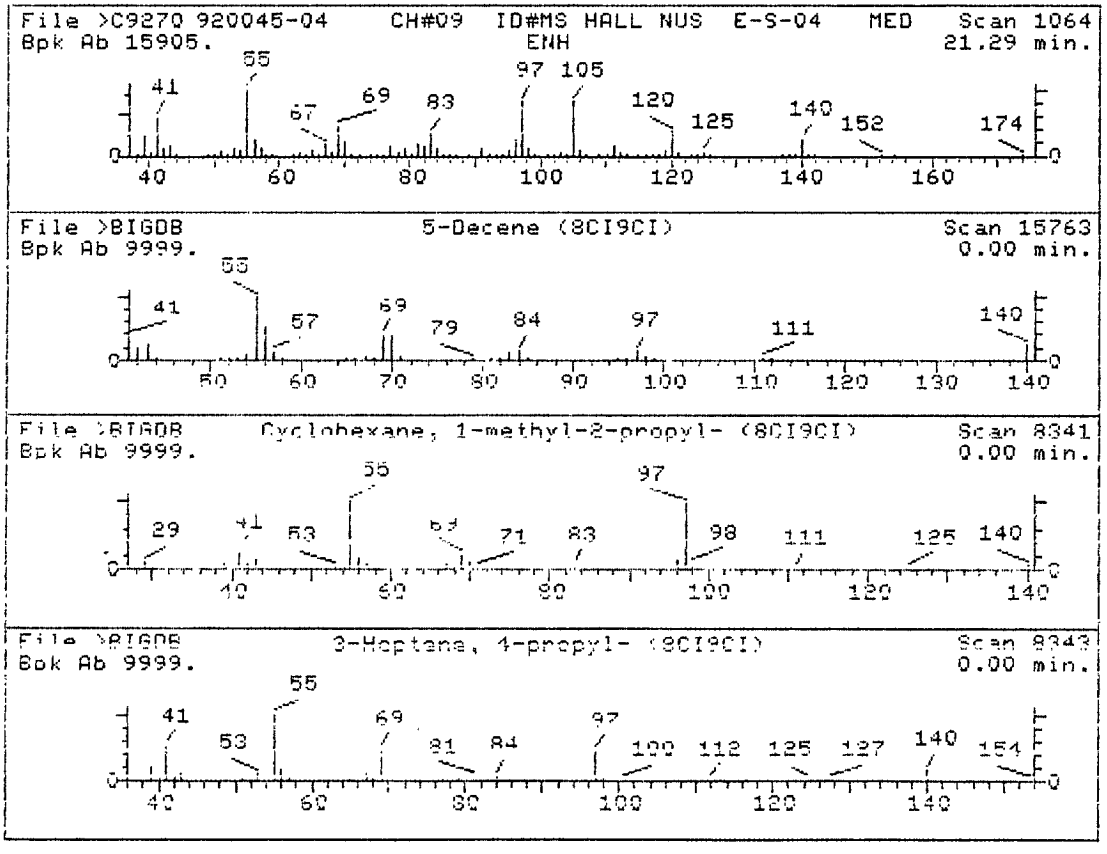
Sample: 920045-04 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:44
Misc : ID#MS HALL NUS E-S-04 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. 5-Decene (8CI9CI) 140 C10H20
2. Cyclohexane, 1-methyl-2-propyl- (8CI9CI) 140 C10H20
3. 3-Heptene, 4-propyl- (8CI9CI) 140 C10H20
4. Benzene, 1-(chloromethyl)-2-methyl- (9CI) 140 C8H9Cl
5. Benzene, 1-(chloromethyl)-3-methyl- (9CI) 140 C8H9Cl

Sample file: >C9270 Spectrum #: 1064
Search speed: 2 Tilting option: S No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	52*	19689191	15763	"BIGDB	45	43	0	-3	39	38	19	43
2.	47*	4291796	8341	"BIGDB	39	50	0	2	86	45	16	40
3.	47*	4485136	8343	"BIGDB	58	37	0	-1	89	43	17	50
4.	43*	552454	15825	"BIGDB	63	28	2	-2	50	36	17	32
5.	42*	620199	15828	"BIGDB	74	13	1	0	67	62	17	92



C-6/K

conc = $\frac{956156}{512535} \times 50$

= 93.

Unknown

MS data file header from : >C9270::D5

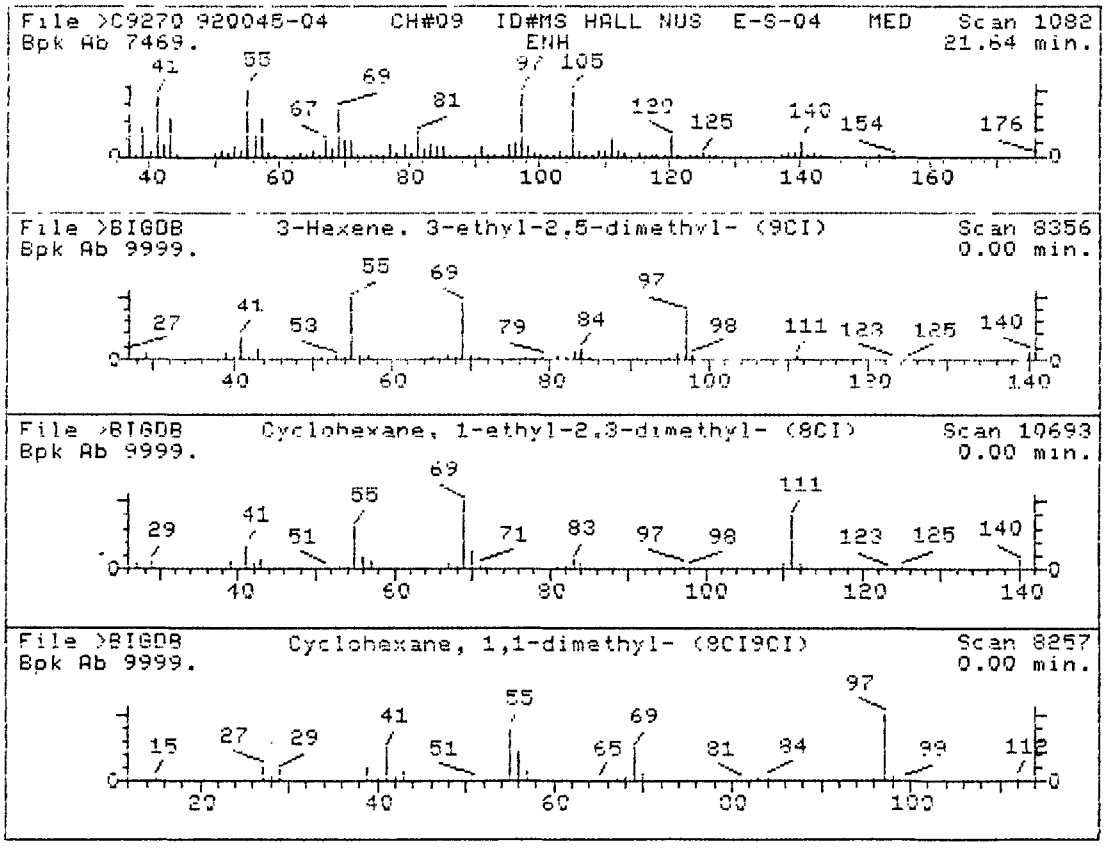
Sample: 920045-04 CH#09 Operator: VOA2 REG. GRP. 2/05/92 23:44
Misc : ID#MS HALL NUS E-S-04 MED SOIL 4G/10MLX100UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. 3-Hexene, 3-ethyl-2,5-dimethyl- (9CI) 140 C10H20
2. Cyclohexane, 1-ethyl-2,3-dimethyl- (8CI) 140 C10H20
3. Cyclohexane, 1,1-dimethyl- (8CI9CI) 112 C8H16
4. Cyclohexane, 1-ethyl-1-methyl- (8CI9CI) 126 C9H18
5. Cyclodecane, methyl- (8CI9CI) 154 C11H22

Sample file: >C9270 Spectrum #: 1082
Search speed: 2 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	43*	62338083	8356	"BIGDB	52	47	1	-1	70	33	16	26
2.	41*	7058051	10693	"BIGDB	56	45	1	-2	64	37	14	28
3.	35*	590669	8257	"BIGDB	56	42	2	3	80	47	11	30
4.	33*	4926903	8248	"BIGDB	31	60	0	0	93	45	12	24
5.	33*	13151434	3713	"BIGDB	57	47	2	-2	32	37	10	19



$$\text{cmc} = \frac{489260}{512535} \times 50 = 48.$$

195

Unknown

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-S-05

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-05

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC249

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 9 Date Analyzed: 02/04/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 5.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	55	U
74-83-9	Bromomethane	55	U
75-01-4	Vinyl Chloride	55	U
75-00-3	Chloroethane	55	U
75-09-2	Methylene Chloride	55	U
67-64-1	Acetone	55	U
75-15-0	Carbon Disulfide	55	U
75-35-4	1,1-Dichloroethene	55	U
75-34-3	1,1-Dichloroethane	55	U
540-59-0	1,2-Dichloroethene (total)	55	U
67-66-3	Chloroform	55	U
107-06-2	1,2-Dichloroethane	55	U
78-93-3	2-Butanone	55	U
71-55-6	1,1,1-Trichloroethane	55	U
56-23-5	Carbon Tetrachloride	55	U
75-27-4	Bromodichloromethane	55	U
78-87-5	1,2-Dichloropropane	55	U
10061-01-5	cis-1,3-Dichloropropene	55	U
79-01-6	Trichloroethene	55	U
124-48-1	Dibromochloromethane	55	U
79-00-5	1,1,2-Trichloroethane	55	U
71-43-2	Benzene	55	U
10061-02-6	trans-1,3-Dichloropropene	55	U
75-25-2	Bromoform	55	U
108-10-1	4-Methyl-2-Pentanone	55	U
591-78-6	2-Hexanone	55	U
127-18-4	Tetrachloroethene	55	U
79-34-5	1,1,2,2-Tetrachloroethane	55	U
108-88-3	Toluene	55	U
108-90-7	Chlorobenzene	55	U
100-41-4	Ethylbenzene	55	U
100-42-5	Styrene	55	U
1330-20-7	Xylene (total)	55	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-05

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-05

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC249

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 9 Date Analyzed: 02/04/92

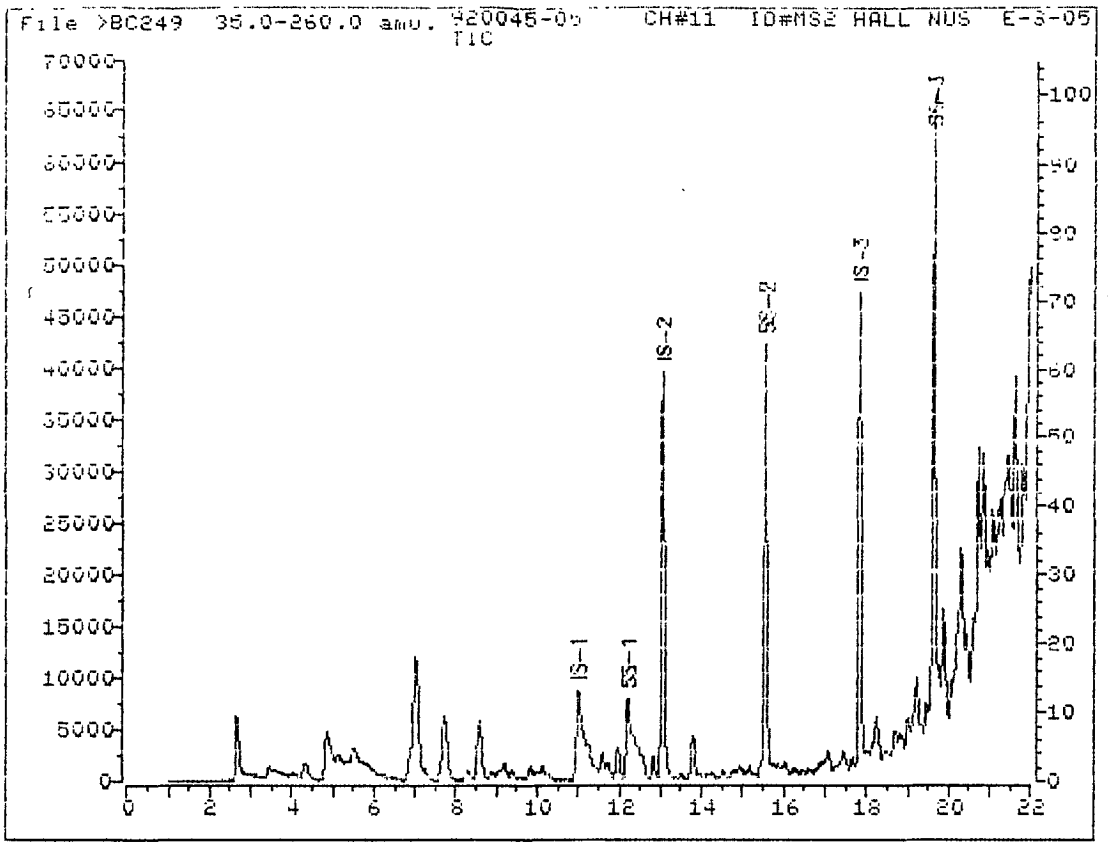
GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 5.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	Unknown	7.72	180	J
2. 000000	Unknown	19.88	82	J
3. 000000	Unknown	20.29	140	J
4. 000000	Aliphatic hydrocarbon	20.72	130	J
5. 000000	Unknown	20.84	88	J
6. 000000	Unknown	21.62	130	J



MS data file header from : >BC249::D4

Sample: 920045-05 CH#11 Operator: VOA2 REG. GRP. 2/04/92 2:41
Misc : ID#MS2 HALL NUS E-S-05 LOW SOIL 1.0G+Q1-33 LH
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1:5 DIL

The sample was diluted due to the presence of high concentration of aliphatic hydrocarbons — HY

JJ

Operator ID: VOA2 Quant Rev: 7 Quant Time: 920204 03:12
Output File: ^BC249::QT Injected at: 920204 02:41
Data File: >BC249::D4 Dilution Factor: 1.00000
Name: 920045-05 CH#11 Instrument ID: MS2
Misc: ID#MS2 HALL NUS E-S-05 LOW SOIL 1.0G+Q1-33 LH

ID File: V2ID::D1
Title: VOLATILE ANALYSIS CLP-TCL DB624 75 Meters ID:MS2
Last Calibration: 910429 11:21 Last Qcal Time: 920203 16:58

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	11.00	128.0	17526M	50.00	UG/L	
13)	CS15 1,2-Dichloroethane-d4	12.21	65.0	35484	50.85	UG/L 102%	90
16)	*CI10 1,4-Difluorobenzene	13.05	114.0	71676	50.00	UG/L	100
28)	*CI20 Chlorobenzene-d5	17.82	117.0	56980	50.00	UG/L	95
34)	CS05 Toluene d-8	15.55	98.0	60962	50.11	UG/L 100%	93
39)	CS10 Bromofluorobenzene	19.64	95.0	55099	52.71	UG/L 105%	85

* Compound is ISTD

reg	type	# pts	scan#	range: amu\r.t.		base	file	ion range
X	GC	1024	51	1.99-	21.99	66600.0	>BC249	35.00- 260.00

MS data file header from : >BC249::D4

Sample: 920045-05 CH#11 Operator: VOA2 REG. GRP. 2/04/92 2:41
Misc : ID#MS2 HALL NUS E-S-05 LOW SOIL 1.0G+Q1-33 LH
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

>BC249 920045-05 CH#11 ID#MS2 HALL NUS E-S-05 LOW SOIL 1.0

35.0| 260.0 TIC
Upslope: .2000 Area Reject:20.00 % Max Peaks: 14 Bunch: 1 Valley >100 %
Dnslope: 0.0000 Results File VDIR87 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	4.86	190	198	208	4607	57407	53376	20.34	3.333
2	7.01	293	308	333	11986	133869	129554	49.38	8.091
3	7.72	333	344	358	6149	61850	59153	22.54	3.694
4	11.00	506	512	522	8674	94872	92358	35.20	5.768
5	12.19	567	573	579	7796	64366	61805	23.56	3.860
6	13.05	612	617	627	39210	191440	183959	70.11	11.489
7	15.55	736	745	753	41826	191525	180710	68.87	11.286
8	17.82	857	861	869	45875	211327	189259	72.13	11.820
9	19.62	948	953	962	59757	375000	262378	100.00	16.386
10	19.88	962	966	972	10634	126702	55262	21.06	3.451
11	20.29	979	987	992	12445	252165	96763	36.88	6.043
12	20.72	1005	1009	1012	18053	203598	86128*	32.83	5.379
13	20.84	1012	1015	1019	11867	216499	62053*	23.65	3.875
14	21.62	1051	1055	1061	18085	337020	88473	33.72	5.525

Sum of corrected areas: 1601231.

65 TIC

C1/K

MS data file header from : >BC249::D4

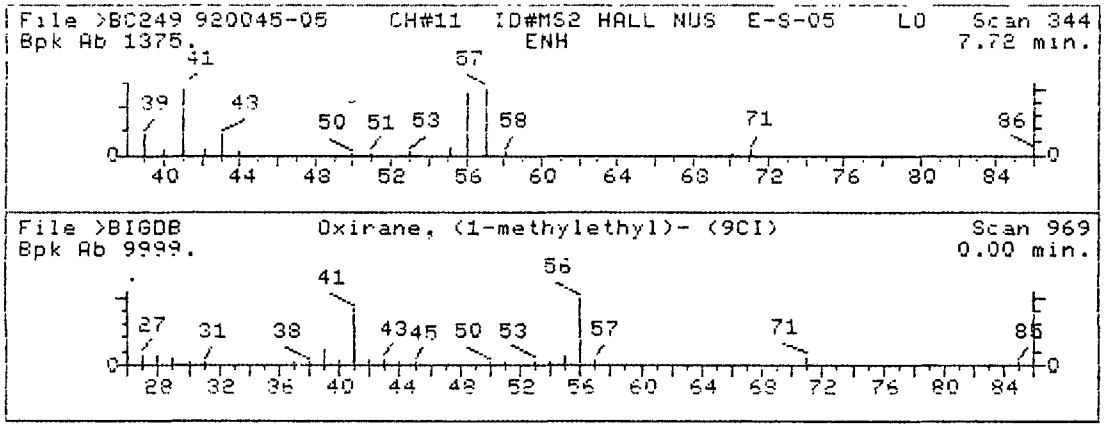
Sample: 920045-05 CH#11 Operator: VOA2 REG. GRP. 2/04/92 2:41
Misc : ID#MS2 HALL NUS E-S-05 LOW SOIL 1.0G+Q1-33 LH
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Oxirane, (1-methylethyl)- (9CI) 86 C5H10O

Sample file: >BC249 Spectrum #: 344
Search speed: 2 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	32*	1438148	969	"BIGDB	31	45	2	0	91	33	12	15



conc = 59153 / 92358 x 50

= 32

unknown

JJ

MS data file header from : >BC249::D4

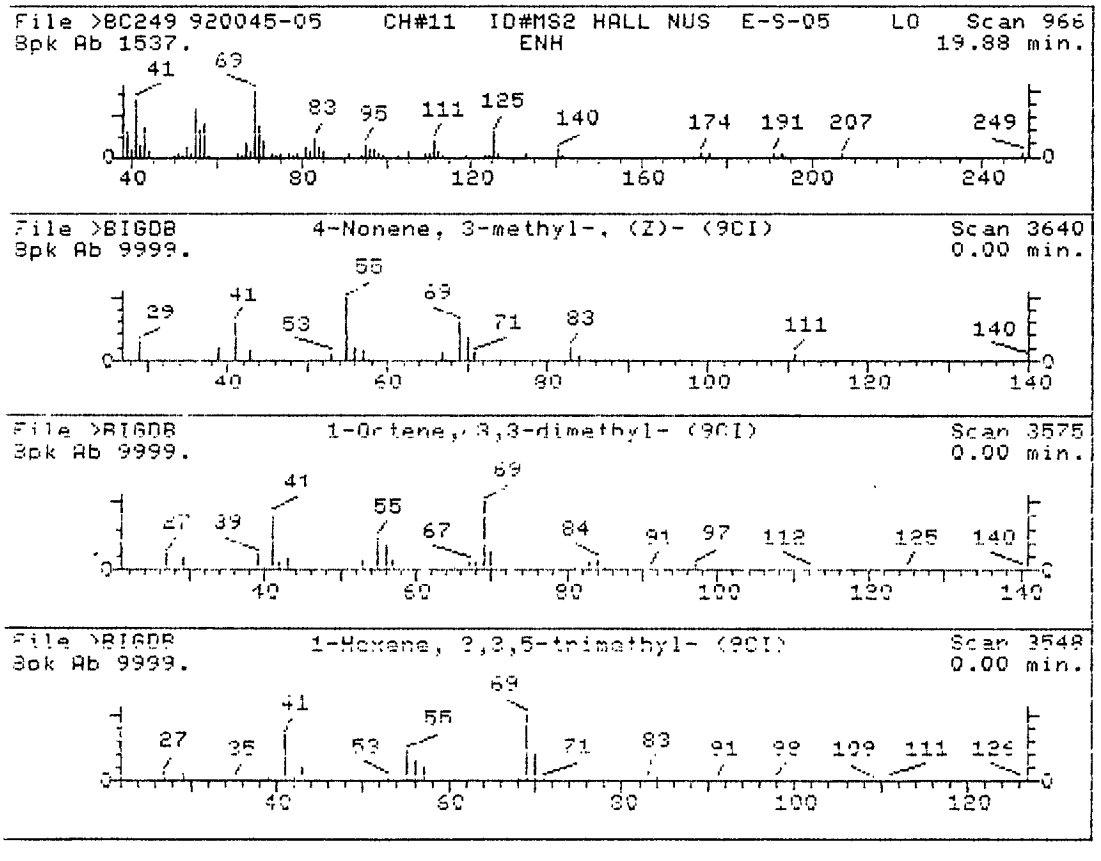
Sample: 920045-05 CH#11 Operator: VOA2 REG. GRP. 2/04/92 2:41
Misc : ID#MS2 HALL NUS E-S-05 LOW SOIL 1.0G+Q1-33 LH
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. 4-Nonene, 3-methyl-, (Z)- (9CI)	140	C10H20
2. 1-Octene, 3,3-dimethyl- (9CI)	140	C10H20
3. 1-Hexene, 3,3,5-trimethyl- (9CI)	126	C9H18
4. Cyanamide, dimethyl- (8CI9CI)	70	C3H6N2
5. 2-Octene, 2,6-dimethyl- (8CI9CI)	140	C10H20

Sample file: >BC249 Spectrum #: 966
Search speed: 2 Tilting option: S No. of ion ranges searched: 60

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	67*	63830693	3640	"BIGDB	59	42	1	0	139	30	27	53
2.	49*	74511516	3575	"BIGDB	49	57	0	0	86	47	13	59
3.	46*	13427435	3548	"BIGDB	35	58	0	0	100	37	17	35
4.	44*	1467794	3506	"BIGDB	34	49	0	0	77	38	17	33
5.	43*	4057425	3742	"BIGDB	39	65	1	0	75	30	19	21



conc = $\frac{55262}{189259} \times 50$

= 15

unknown

JJ

202

MS data file header from : >BC249::D4

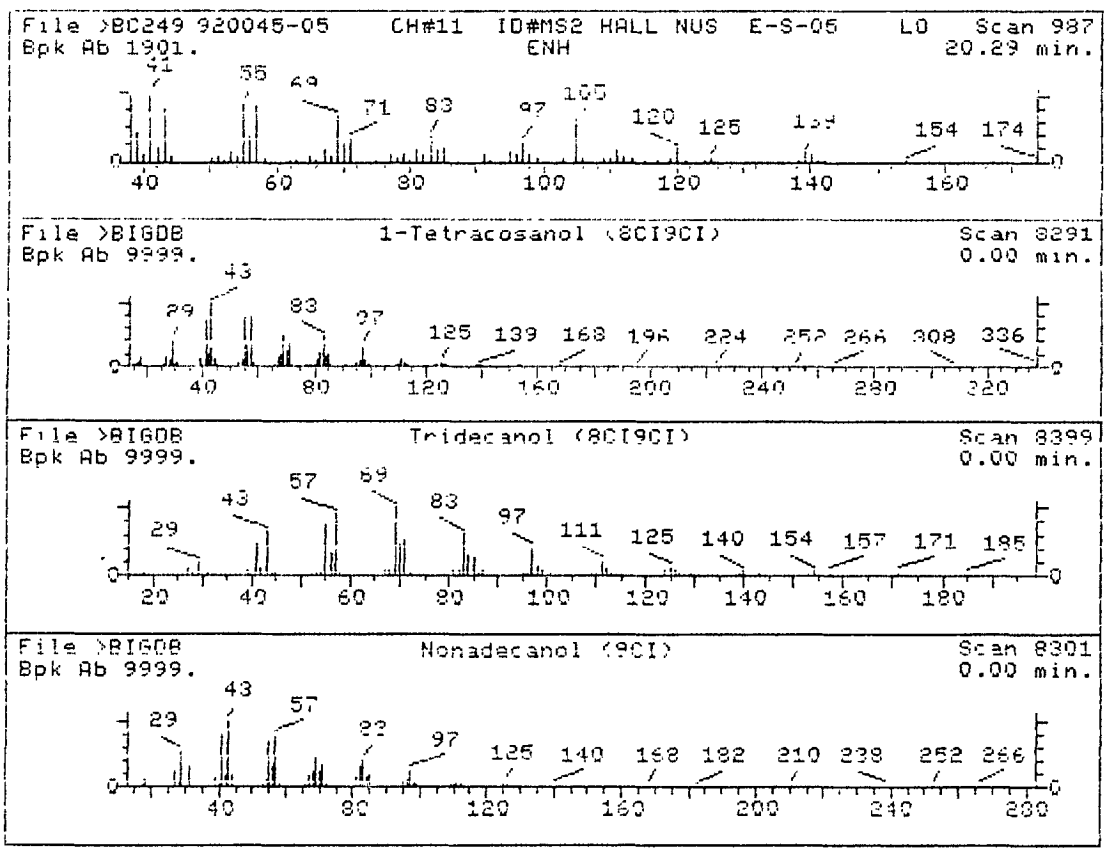
Sample: 920045-05 CH#11 Operator: VOA2 REG. GRP. 2/04/92 2:41
Misc : ID#MS2 HALL NUS E-S-05 LOW SOIL 1.0G+Q1-33 LH
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. 1-Tetracosanol (8CI9CI)	354	C24H50O
2. Tridecanol (8CI9CI)	200	C13H28O
3. Nonadecanol (9CI)	284	C19H40O
4. Cyclopentane, pentyl- (9CI)	140	C10H20
5. Hexadecane, 1,1-bis(dodecyloxy)- (9CI)	594	C40H82O2

Sample file: >BC249 Spectrum #: 987
Search speed: 2 Tilting option: S No. of ion ranges searched: 85

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	56	506514	8291	"BIGDB	116	48	3	0	79	29	24	36
2.	56	26248420	8399	"BIGDB	94	49	2	0	63	25	22	28
3.	52	52783434	8301	"BIGDB	108	45	3	-2	73	20	20	19
4.	51*	3741002	3361	"BIGDB	72	54	2	0	53	45	17	54
5.	44	56554644	5501	"BIGDB	82	111	3	0	76	22	17	15



conc = 96763 / 189259 × 50

= 26.

203

unknown

MS data file header from : >BC249::D4

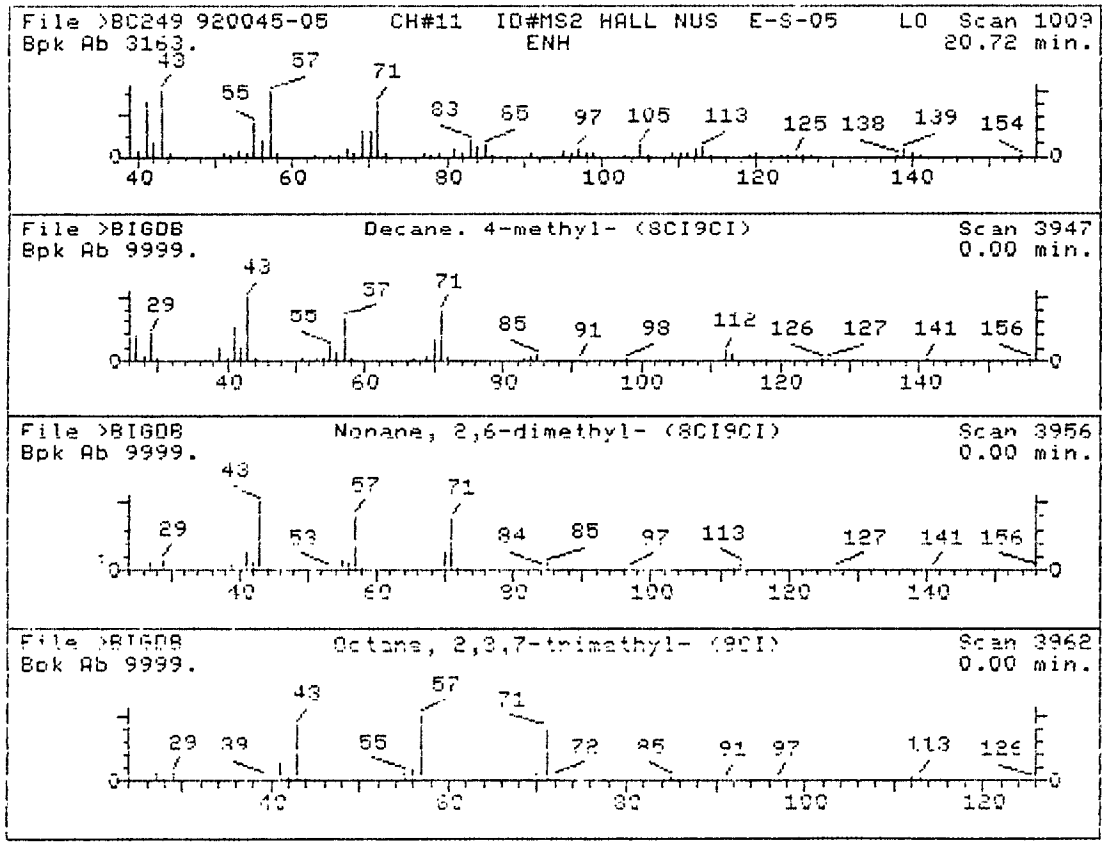
Sample: 920045-05 CH#11 Operator: VOA2 REG. GRP. 2/04/92 2:41
Misc : ID#MS2 HALL NUS E-S-05 LOW SOIL 1.0G+Q1-33 LH
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Decane, 4-methyl- (8CI9CI) 156 C11H24
2. Nonane, 2,6-dimethyl- (8CI9CI) 156 C11H24
3. Octane, 2,3,7-trimethyl- (9CI) 156 C11H24
4. Octane, 2,3,6-trimethyl- (9CI) 156 C11H24
5. Octane, 3-ethyl- (8CI9CI) 142 C10H22

Sample file: >BC249 Spectrum #: 1009
Search speed: 2 Tilting option: S No. of ion ranges searched: 52

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	80*	2847725	3947	"BIGDB	66	35	0	0	78	28	37	78
2.	69*	17302282	3956	"BIGDB	53	38	0	0	100	32	26	65
3.	51	62016346	3962	"BIGDB	57	36	0	0	98	33	20	35
4.	51	62016335	3961	"BIGDB	50	42	0	0	94	26	19	29
5.	42	5881174	3951	"BIGDB	52	41	0	0	90	36	17	31



conc = $\frac{86123}{189259} \times 50$

= 23.

204.

Aliphatic hydrocarbon

MS data file header from : >BC249::D4

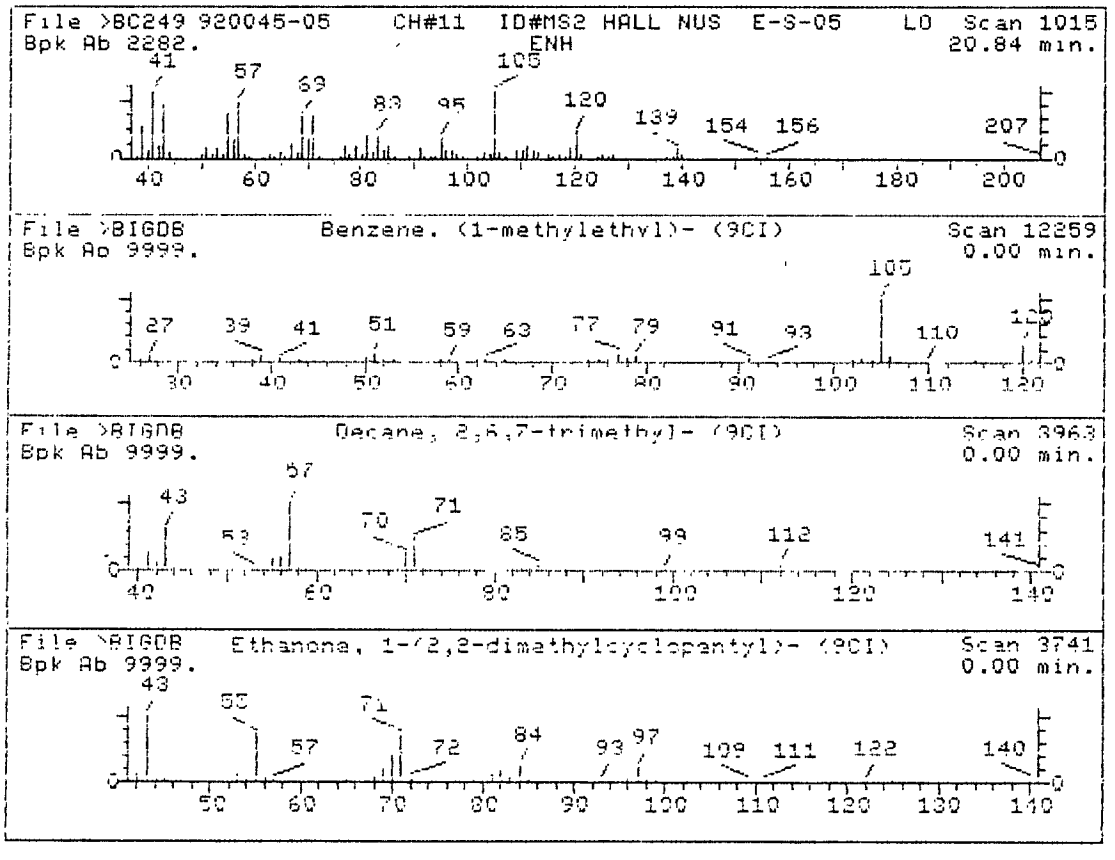
Sample: 920045-05 CH#11 Operator: VOA2 REG. GRP. 2/04/92 2:41
Misc : ID#MS2 HALL NUS E-S-05 LOW SOIL 1.0G+Q1-33 LH
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Benzene, (1-methylethyl)- (9Cl) 120 C9H12
2. Decane, 2,6,7-trimethyl- (9CI) 184 C13H28
3. Ethanone, 1-(2,2-dimethylcyclopentyl)- (9CI) 140 C9H16O
4. 1-Hexene, 3,4,5-trimethyl- (9CI) 126 C9H18
5. 2,3-Heptadien-5-yne, 2,4-dimethyl- (9CI) 120 C9H12

Sample file: >BC249 Spectrum #: 1015
Search speed: 2 Tilting option: S No. of ion ranges searched: 64

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	31*	98828	12259	"BIGDB	74	13	1	-2	64	58	8	60
2.	25	62108252	3963	"BIGDB	40	58	0	0	84	48	7	17
3.	24*	3664753	3741	"BIGDB	47	41	1	1	44	53	7	26
4.	21*	56728100	3922	"BIGDB	33	52	0	0	71	60	5	30
5.	21*	41898899	12296	"BIGDB	41	38	0	-3	14	56	5	34



$$\text{conc} = \frac{62053}{189259} \times 50$$

$$= 16$$

Unknown

205

MS data file header from : >BC249::D4

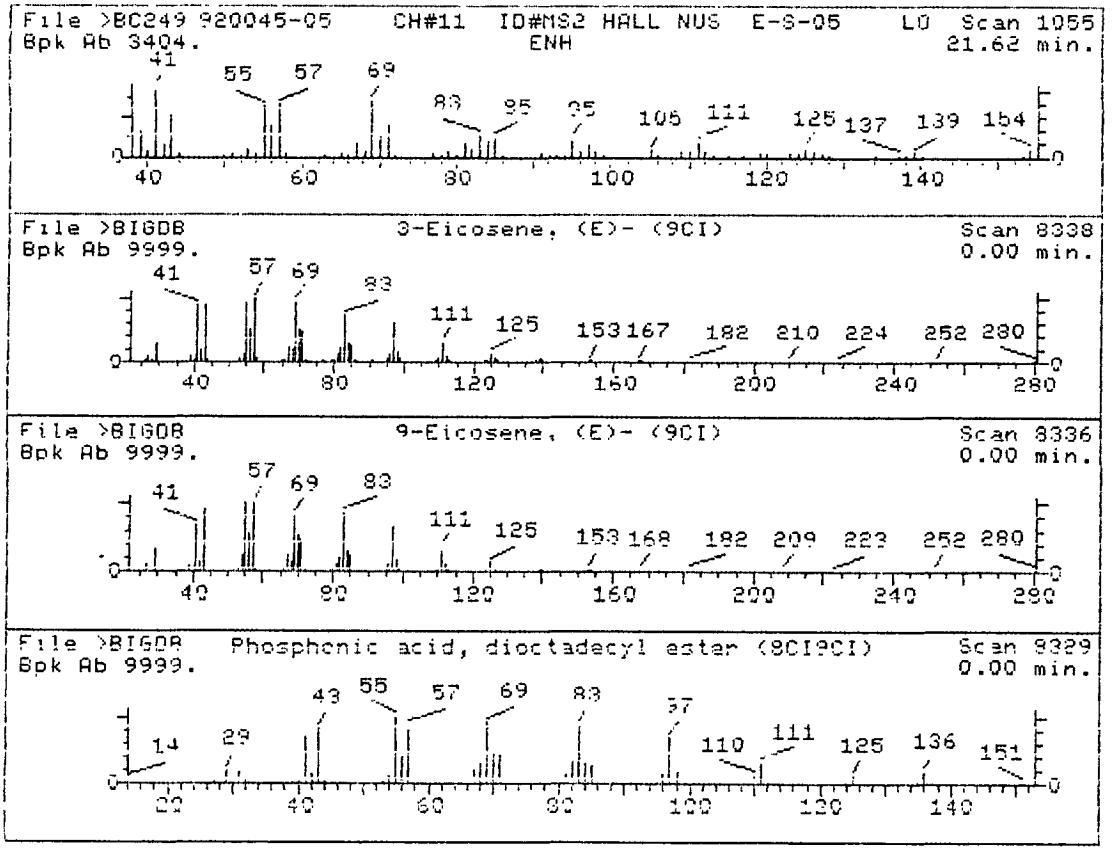
Sample: 920045-05 CH#11 Operator: VOA2 REG. GRP. 2/04/92 2:41
Misc : ID#MS2 HALL NUS E-S-05 LOW SOIL 1.0G+Q1-33 LH
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. 3-Eicosene, (E)- (9CI) 280 C20H40
2. 9-Eicosene, (E)- (9CI) 280 C20H40
3. Phosphonic acid, dioctadecyl ester (8CI9CI) 586 C36H75O3P
4. 9-Octadecene, (E)- (8CI9CI) 252 C18H36
5. 2-Decene, 7-methyl-, (Z)- (9CI) 154 C11H22

Sample file: >BC249 Spectrum #: 1055
Search speed: 2 Tilting option: S No. of ion ranges searched: 82

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	78	74685339	8338	"BIGDB	75	91	3	0	79	4	55	13
2.	70	74685293	8336	"BIGDB	73	97	3	0	76	8	42	13
3.	60	19047859	8329	"BIGDB	72	128	3	0	76	13	30	12
4.	52	7206259	8308	"BIGDB	70	82	3	0	76	16	20	12
5.	52*	74630232	10658	"BIGDB	47	60	0	0	68	44	17	55



$$\text{conc} = \frac{88473}{189259} \times 50$$

$= 23$

206

Unknown

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-3-06

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-06

Sample wt/vol: 4.0 (g/ml) G Lab File ID: C9272

Level: (low/med) MED Date Received: 02/01/92

% Moisture: not dec. 14 Date Analyzed: 02/06/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 200 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	730	U
74-83-9	Bromomethane	730	U
75-01-4	Vinyl Chloride	730	U
75-00-3	Chloroethane	730	U
75-09-2	Methylene Chloride	530	J
67-64-1	Acetone	730	U
75-15-0	Carbon Disulfide	730	U
75-35-4	1,1-Dichloroethene	730	U
75-34-3	1,1-Dichloroethane	730	U
540-59-0	1,2-Dichloroethene (total)	730	U
67-66-3	Chloroform	730	U
107-06-2	1,2-Dichloroethane	730	U
78-93-3	2-Butanone	730	U
71-55-6	1,1,1-Trichloroethane	490	J
56-23-5	Carbon Tetrachloride	730	U
75-27-4	Bromodichloromethane	730	U
78-87-5	1,2-Dichloropropane	730	U
10061-01-5	cis-1,3-Dichloropropene	730	U
79-01-6	Trichloroethene	730	U
124-48-1	Dibromochloromethane	730	U
79-00-5	1,1,2-Trichloroethane	730	U
71-43-2	Benzene	730	U
10061-02-6	trans-1,3-Dichloropropene	730	U
75-25-2	Bromoform	730	U
108-10-1	4-Methyl-2-Pentanone	730	U
591-78-6	2-Hexanone	730	U
127-18-4	Tetrachloroethene	730	U
79-34-5	1,1,2,2-Tetrachloroethane	730	U
108-88-3	Toluene	120	J
108-90-7	Chlorobenzene	730	U
100-41-4	Ethylbenzene	730	U
100-42-5	Styrene	730	U
1330-20-7	Xylene (total)	120	J

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-06

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-06

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C3272

Level: (low/med) MED Date Received: 02/01/92

% Moisture: not dec. 14 Date Analyzed: 02/06/92

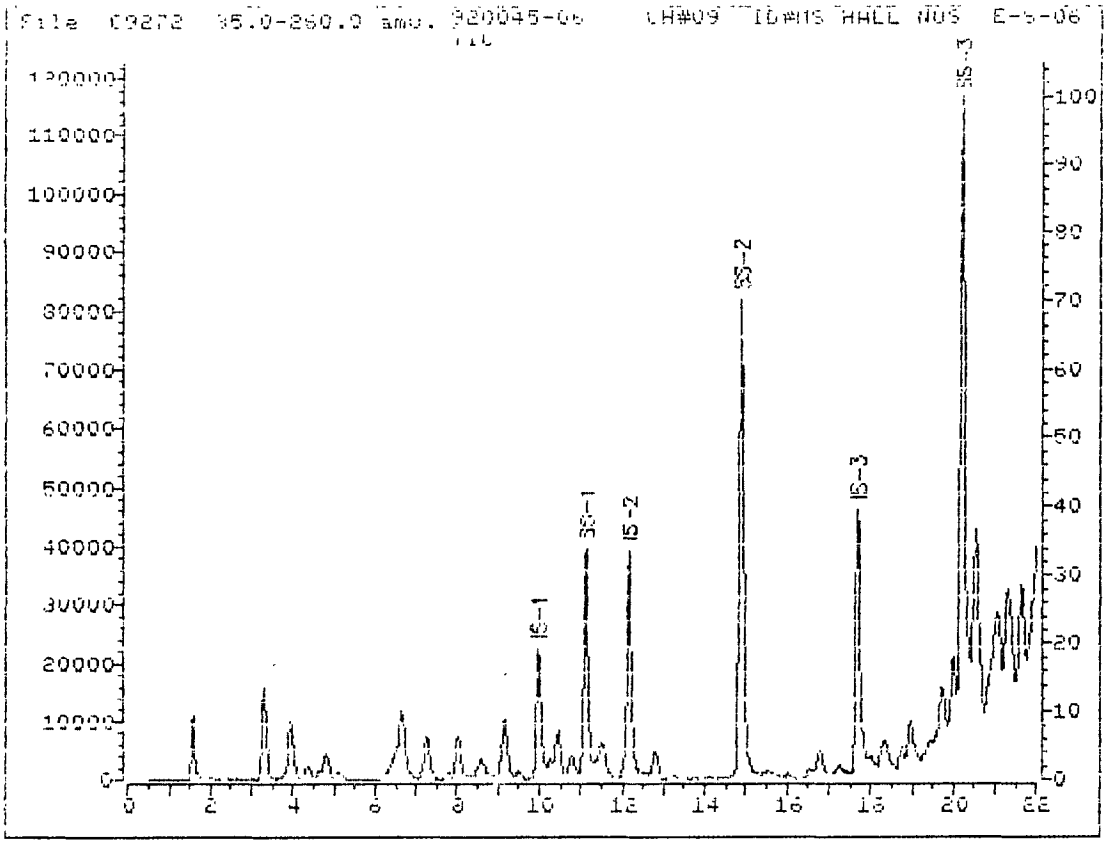
GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 200 (uL)

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	Unknown	6.63	3700	J
2. 000000	Unknown	20.00	1000	J
3. 000000	Unknown	20.53	3300	J
4. 000000	Unknown	21.06	1100	J
5. 000000	Unknown	21.29	1700	J
6. 000000	Unknown	21.64	1400	J



MS data file header from : >C9272::D5

Sample: 920045-06 CH#09 Operator: VOA2 REG. GRP. 2/06/92 1:04
Misc : ID#MS HALL NUS E-S-06 MED SOIL 4G/10MLX200UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

QUANT REPORT

Operator ID: VOA2 Quant Rev: 7 Quant Time: 920206 01:36
Output File: >C9272::QT Injected at: 920206 01:04
Data File: >C9272::D5 Dilution Factor: 1.00000
Name: 920045-06 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-06 MED SOIL 4G/10MLX200UL+IS LH

ID File: V3ID::SC
Title: VOLATILE ANALYSIS CLP-TCL DB624 30Mx0.53ID x3uM ID#MS3
Last Calibration: 910429 11:21 Last Qcal Time: 920205 21:45

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	9.97	128.0	31526	50.00	UG/L	80
6)	C030 Methylene Chloride	6.57	84.0	6240	7.27	UG/L	75
12)	C060 Chloroform	10.44	83.0	1253	.495	UG/L	53
13)	CS15 1,2-Dichloroethane-d4	11.12	65.0	105288	106.73	UG/L 107%	98
16)	*CI10 1,4-Difluorobenzene	12.16	114.0	116782	50.00	UG/L	100
17)	C115 1,1,1-Trichloroethane	10.44	97.0	11628	6.73	UG/L	88
18)	C120 Carbon Tetrachloride	10.40	117.0	1523	.831	UG/L	74
25)	C165 Benzene	11.14	78.0	4255	2.78	UG/L	100
28)	*CI20 Chlorobenzene-d5	17.69	117.0	109761	50.00	UG/L	96
33)	C230 Toluene	14.99	91.0	4286	1.66	UG/L	98
34)	CS05 Toluene d-8	14.88	98.0	225647	97.45	UG/L 97%	97
38)	C250 Total Xylenes	18.35	106.0	1787M	1.59	UG/L	
39)	CS10 Bromofluorobenzene	20.21	95.0	162345	92.45	UG/L 92%	87

Results off

ok

GK

* Compound is ISTD

reg	type	# pts	scan#	range: amu\r.t.	base	file	ion range
X	GC	1024	79	2.00- 22.00	116862.0	>C9272	35.00- 260.00

MS data file header from : >C9272::D5

Sample: 920045-06 CH#09 Operator: VOA2 REG. GRP. 2/06/92 1:04
Misc : ID#MS HALL NUS E-S-06 MED SOIL 4G/10MLX200UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

>C9272 920045-06 CH#09 ID#MS HALL NUS E-S-06 MED SOIL 4G/1

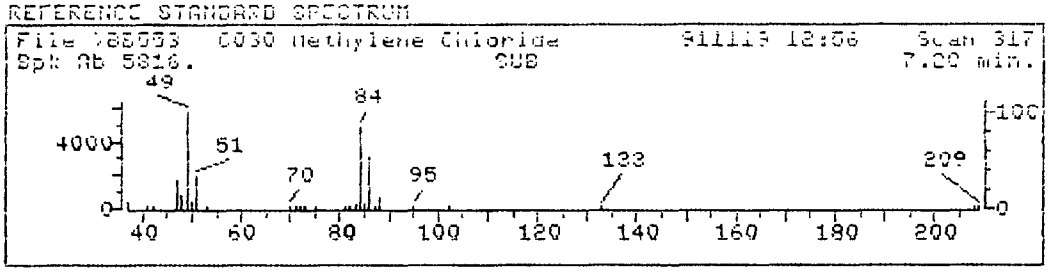
35.0| 260.0 TIC
Upslope: .2000 Area Reject:10.00 % Max Peaks: 15 Bunch: 1 Valley >100 %
Dnslope: 0.0000 Results File VDIR87 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	3.31	138	146	155	15572	120035	115013	13.97	3.064
2	3.96	163	179	190	9882	101122	94824	11.52	2.526
3	6.63	286	316	329	11687	186838	181798	22.08	4.844
4	9.15	436	445	456	9555	106081	91051	11.06	2.426
5	9.97	479	487	497	22067	186331	179726	21.83	4.789
6	11.12	537	546	554	38258	296810	273304	33.19	7.282
7	12.16	588	599	614	38543	306622	287828	34.95	7.669
8	14.88	729	738	757	80876	617925	593654	72.09	15.817
9	17.69	874	882	894	45016	358096	333668	40.52	8.890
10	20.00	994	1000	1004	12046	197037	91414*	11.10	2.436
11	20.19	1004	1010	1021	106849	1023257	823475*	100.00	21.941
12	20.53	1022	1027	1038	31619	508837	300977*	36.55	8.019
13	21.06	1047	1054	1060	9976	383763	98531	11.97	2.625
14	21.29	1061	1066	1077	15811	478646	162074	19.68	4.318
15	21.64	1078	1084	1091	15704	397221	125842	15.28	3.353

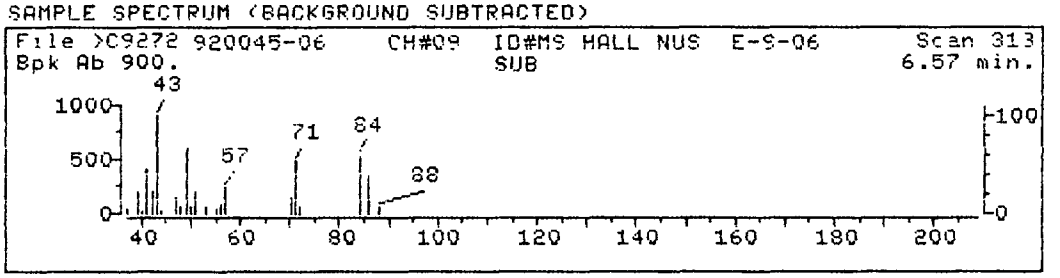
Sum of corrected areas: 3753179.

6 TIC

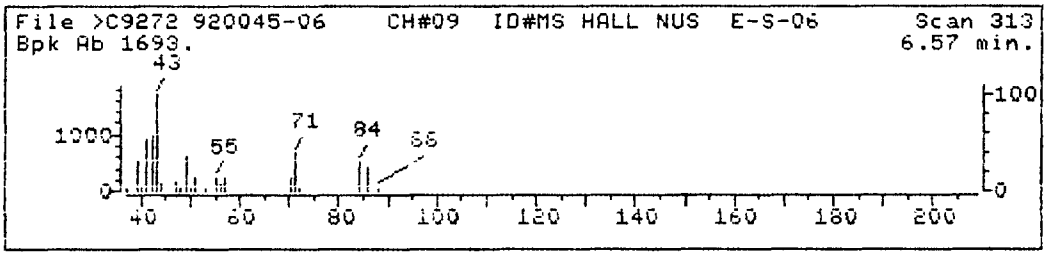
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



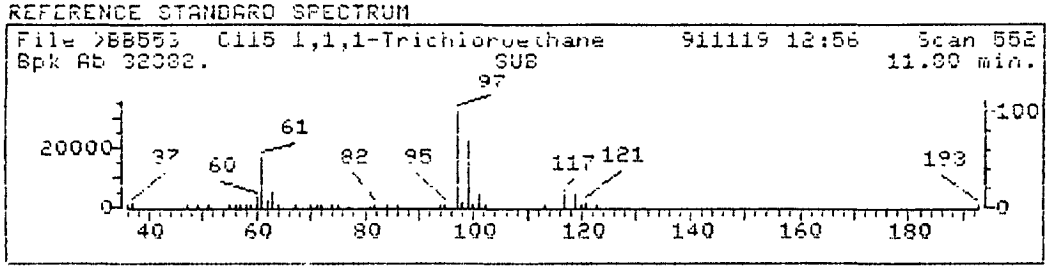
SAMPLE SPECTRUM (UNALTERED)



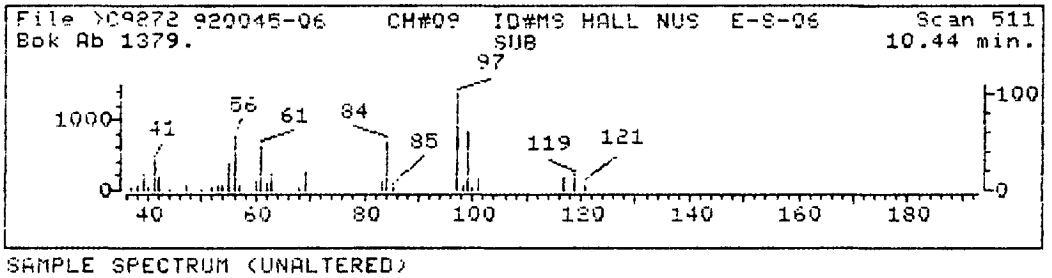
Data File: >C9272::D5 Quant Output File: ^C9272::QT
Name: 920045-06 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-06 MED SOIL 4G/10MLX200UL+1S LH
Quant Time: 920206 01:56 Quant ID File: V3ID::SC
Injected at: 920206 01:04 Last Calibration: 910429 11:21
Last Qcal Time: 920205 21:45

Compound No : 6
Compound Name : C030 Methylene Chloride
Scan Number : 313
Retention Time: 6.57 min.
Quant Ion : 84.0
Area : 6240
Concentration : 7.27 UG/L
q-value : 75

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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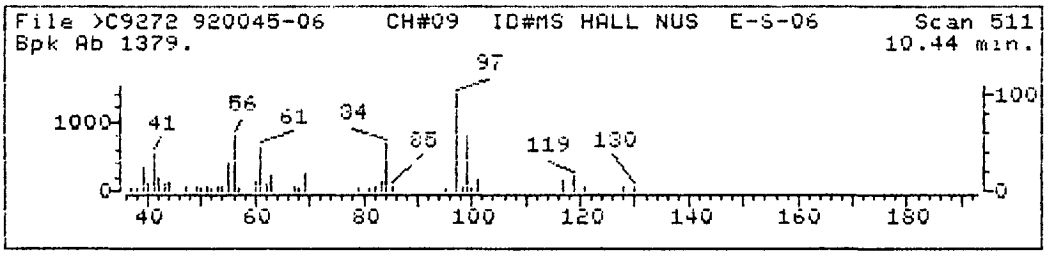
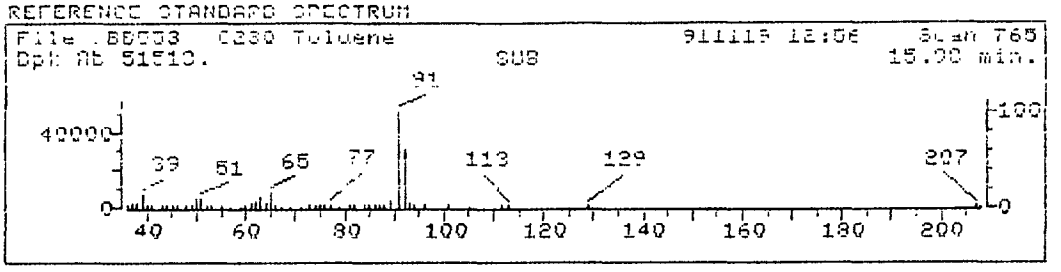


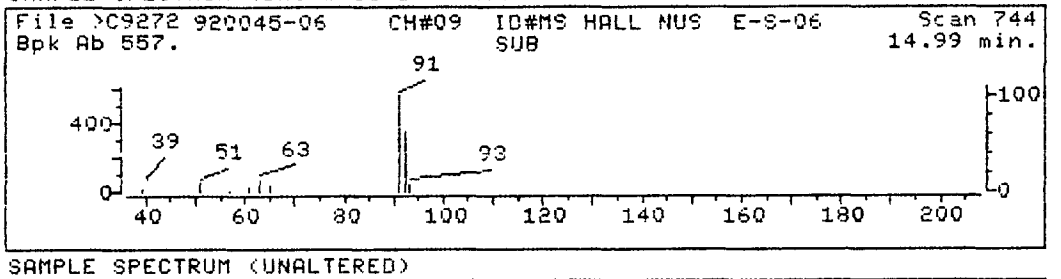
Data File: >C9272::D5 Quant Output File: ^C9272::QT
Name: 920045-06 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-06 MED SOIL 4G/10MLX200UL+IS LH
Quant Time: 920206 01:36 Quant ID File: V3ID::SC
Injected at: 920206 01:04 Last Calibration: 910429 11:21
Last Qcal Time: 920205 21:45

Compound No : 17
Compound Name : C115 1,1,1-Trichloroethane
Scan Number : 511
Retention Time: 10.44 min.
Quant Ion : 97.0
Area : 11628
Concentration : 6.73 UG/L
q-value : 88

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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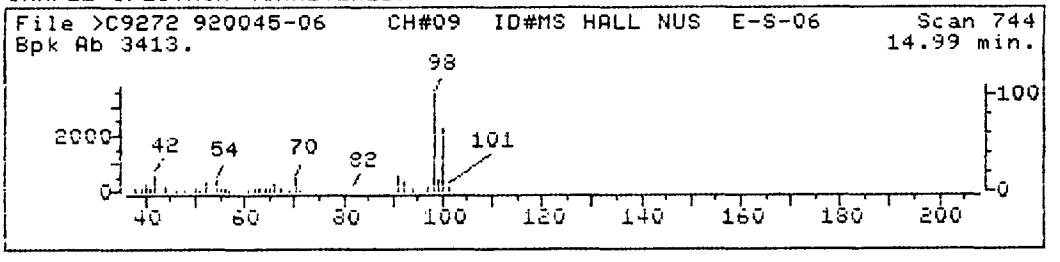
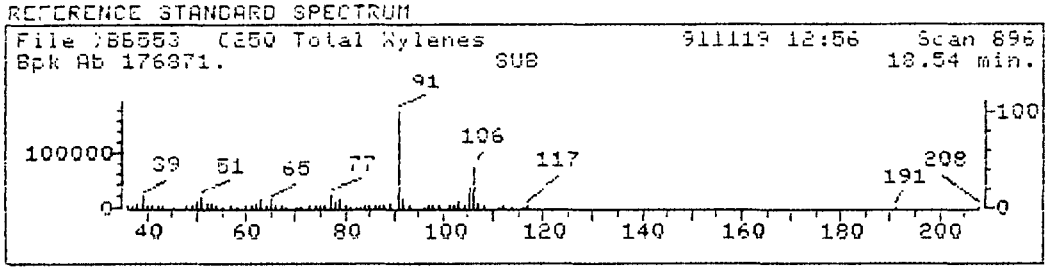


Data File: >C9272::D5
Name: 920045-06 CH#09
Misc: ID#MS HALL NUS E-S-06 MED SOIL 4G/10MLX200UL+IS LH
Quant Time: 920206 01:36
Injected at: 920206 01:04
Last Qcal Time: 920205 21:45

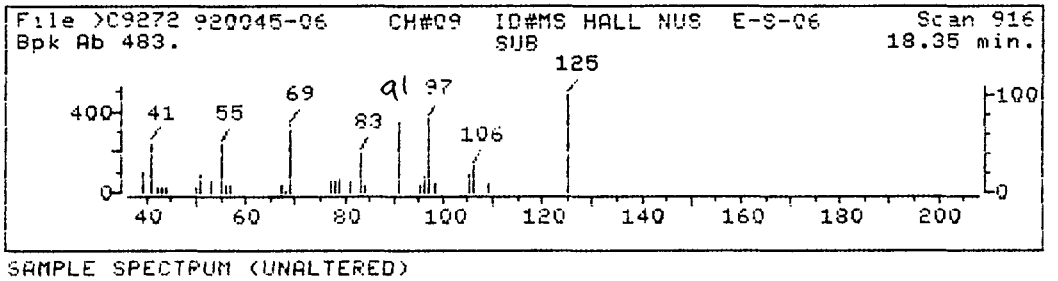
Quant Output File: ^C9272::QT
Instrument ID: MS3
Quant ID File: V3ID::SC
Last Calibration: 910429 11:21

Compound No : 33
Compound Name : C230 Toluene
Scan Number : 744
Retention Time: 14.99 min.
Quant Ion : 91.0
Area : 4286
Concentration : 1.66 UG/L
q-value : 98

REFERENCE STANDARD SPECTRUM



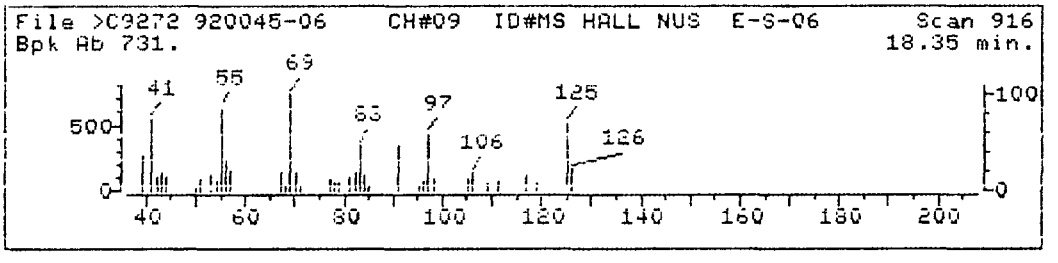
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



m/z 41, 55, 69, a 7, 125 from background

a/c

SAMPLE SPECTRUM (UNALTERED)



Data File: >C9272::05 Quant Output File: ^C9272::QT
Name: 920045-06 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-06 MED SOIL 4G/10MLX200UL+IS LH
Quant Time: 920206 01:36 Quant ID File: V3ID::SC
Injected at: 920206 01:04 Last Calibration: 910429 11:21
Last Qcal Time: 920205 21:45

Compound No : 38
Compound Name : C250 Total Xylenes
Scan Number : 916
Retention Time: 18.35 min.
Quant Ion : 106.0
Area : 1787M
Concentration : 1.59 UG/L

MS data file header from : >C9272::D5

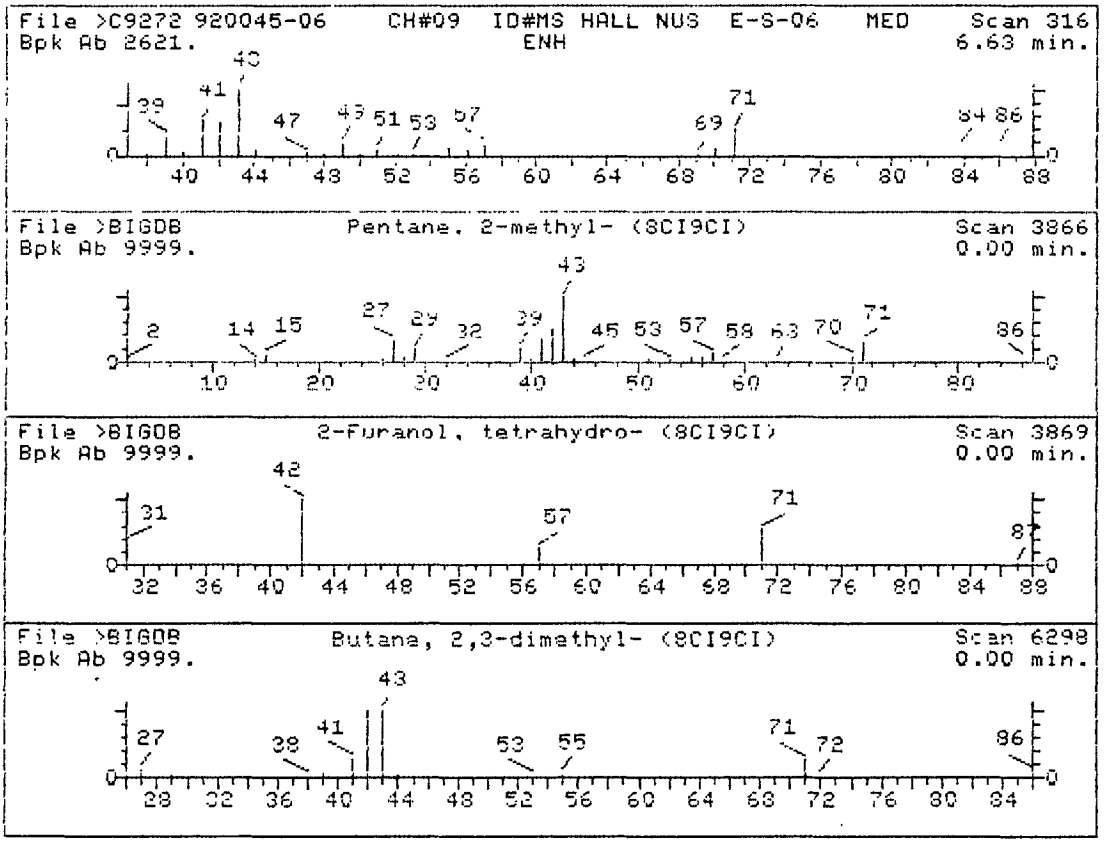
Sample: 920045-06 CH#09 Operator: VOA2 REG. GRP. 2/06/92 1:04
Misc : ID#MS HALL NUS E-S-06 MED SOIL 4G/10MLX200UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Pentane, 2-methyl- (8CI9CI) 86 C6H14
2. 2-Furanol, tetrahydro- (8CI9CI) 88 C4H8O2
3. Butane, 2,3-dimethyl- (8CI9CI) 86 C6H14

Sample file: >C9272 Spectrum #: 316
Search speed: 2 Tilting option: S No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	69*	107835	3866	"BIGDB	57	29	0	0	95	35	26	69
2.	26*	5371528	3869	"BIGDB	22	18	1	0	50	42	8	14
3.	12*	79298	6298	"BIGDB	41	41	2	0	157	61	2	21



conc = $\frac{181798}{179726} \times 50$

= 51.0

Unknown

MS data file header from : >C9272::D5

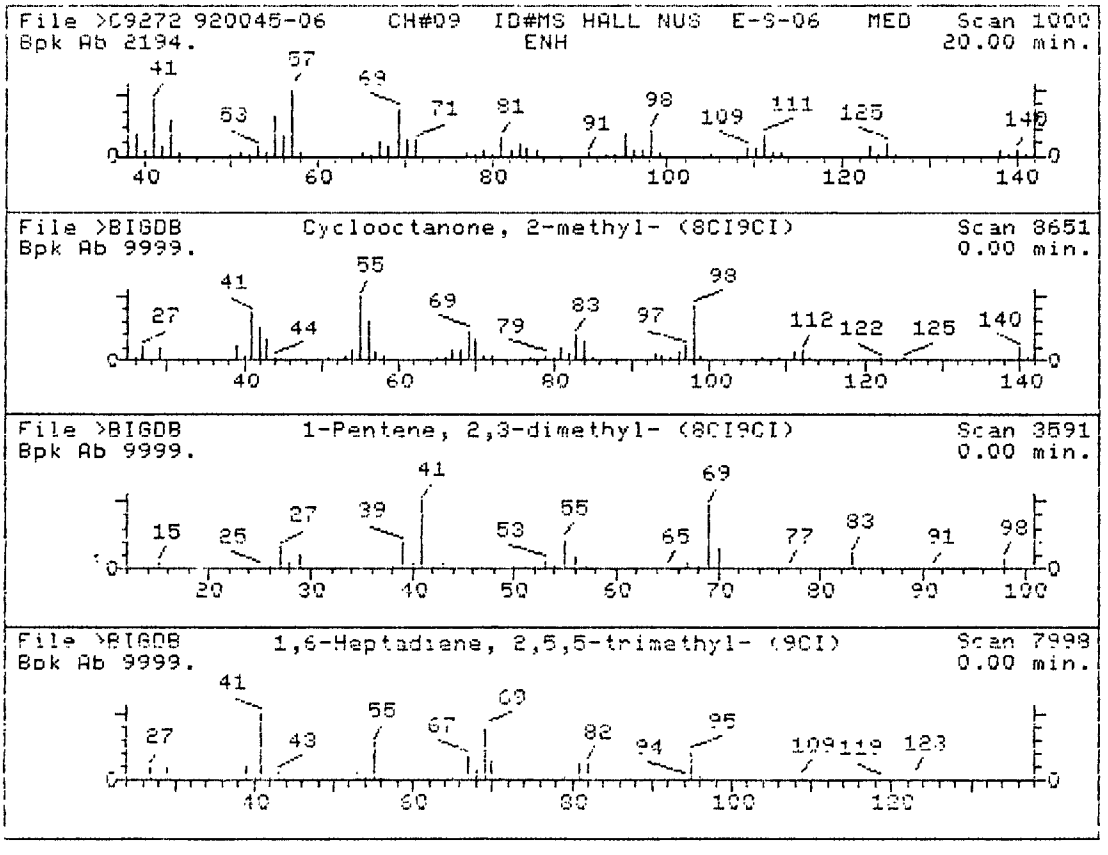
Sample: 920045-06 CH#09 Operator: VOA2 REG. GRP. 2/06/92 1:04
Misc : ID#MS HALL NUS E-S-06 MED SOIL 4G/10MLX200UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Cyclooctanone, 2-methyl- (8CI9CI) 140 C9H16O
2. 1-Pentene, 2,3-dimethyl- (8CI9CI) 98 C7H14
3. 1,6-Heptadiene, 2,5,5-trimethyl- (9CI) 138 C10H18
4. Cyclononanone (8CI9CI) 140 C9H16O
5. 2-Decene, 5-methyl-, (Z)- (9CI) 154 C11H22

Sample file: >C9272 Spectrum #: 1000
Search speed: 2 Tilting option: S No. of ion ranges searched: 58

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	28*	10363276	8651	"BIGDB	56	50	2	0	36	51	8	33
2.	24*	3404726	3591	"BIGDB	49	51	1	-1	67	55	7	21
3.	24*	62238282	7998	"BIGDB	59	44	2	-1	60	55	7	24
4.	20*	3350309	8649	"BIGDB	37	87	3	0	62	51	5	13
5.	20	74645866	8531	"BIGDB	43	38	3	0	301	55	5	12



$$\text{conc} = \frac{91414}{333668} \times 50$$

$$= 14.0$$

217

Unknown

MS data file header from : >C9272::D5

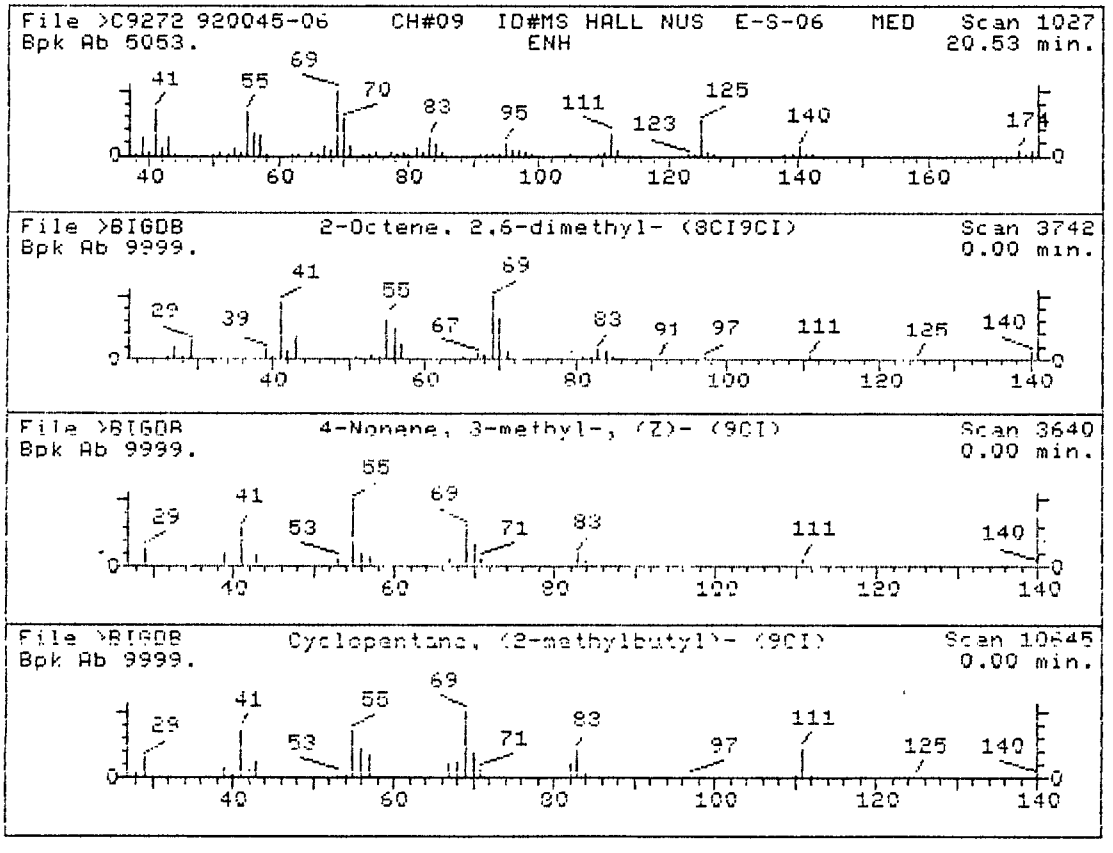
Sample: 920045-06 CH#09 Operator: VOA2 REG. GRP. 2/06/92 1:04
Misc : ID#MS HALL NUS E-S-06 MED SOIL 4G/10MLX200UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. 2-Octene, 2,6-dimethyl- (8CI9CI) 140 C10H20
2. 4-Nonene, 3-methyl-, (Z)- (9CI) 140 C10H20
3. Cyclopentane, (2-methylbutyl)- (9CI) 140 C10H20
4. 4-Octene, 2,6-dimethyl-, [S-(Z)]- (9CI) 140 C10H20
5. 4-Octene, 2,6-dimethyl-, [S-(E)]- (9CI) 140 C10H20

Sample file: >C9272 Spectrum #: 1027
Search speed: 2 Tilting option: S No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	74*	4057425	3742	"BIGDB	66	38	0	0	73	39	28	78
2.	65*	63830693	3640	"BIGDB	60	41	1	0	117	35	24	56
3.	58*	53366384	10645	"BIGDB	68	44	2	0	68	39	19	49
4.	46*	62960774	3761	"BIGDB	49	50	1	0	109	32	16	29
5.	44*	62960763	15776	"BIGDB	60	40	2	1	140	40	17	33



$$\text{Conc} = \frac{300977}{333668} \times 50$$

$$= 45.0$$

218

unknown

MS data file header from : >C9272::D5

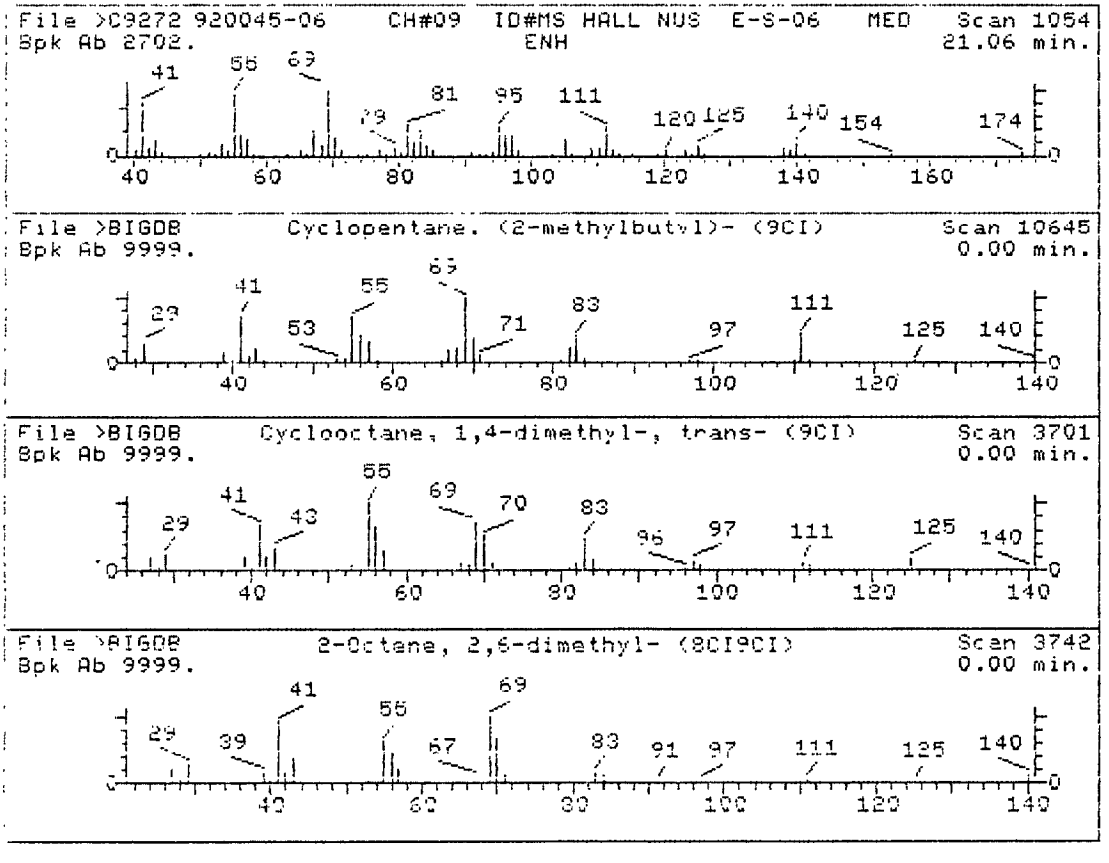
Sample: 920045-06 CH#09 Operator: VOA2 REG. GRP. 2/06/92 1:04
Misc : ID#MS HALL NUS E-S-06 MED SOIL 4G/10MLX200UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Cyclopentane, (2-methylbutyl)- (9CI) 140 C10H20
2. Cyclooctane, 1,4-dimethyl-, trans- (9CI) 140 C10H20
3. 2-Octene, 2,6-dimethyl- (8CI9CI) 140 C10H20
4. 8-Oxabicyclo[5.1.0]octane (8CI9CI) 112 C7H12O
5. Cyclohexaneethanol, .beta.,4-dimethyl-, cis- (9CI) 156 C10H20O

Sample file: >C9272 Spectrum #: 1054
Search speed: 2 Tilting option: S No. of ion ranges searched: 61

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	38*	53366384	10645	"BIGDB	78	34	0	-2	67	51	11	60
2.	24*	13151989	3701	"BIGDB	57	52	1	-2	50	51	7	29
3.	20*	4057425	3742	"BIGDB	54	50	2	-2	71	54	5	16
4.	18	286453	3309	"BIGDB	36	62	0	-2	29	58	4	23
5.	15	5113951	8136	"BIGDB	42	65	0	0	65	58	3	15



Unknown

$$conc = \frac{98531}{333668} \times \frac{50}{1}$$

$= 15.0$

219

MS data file header from : >C9272::D5

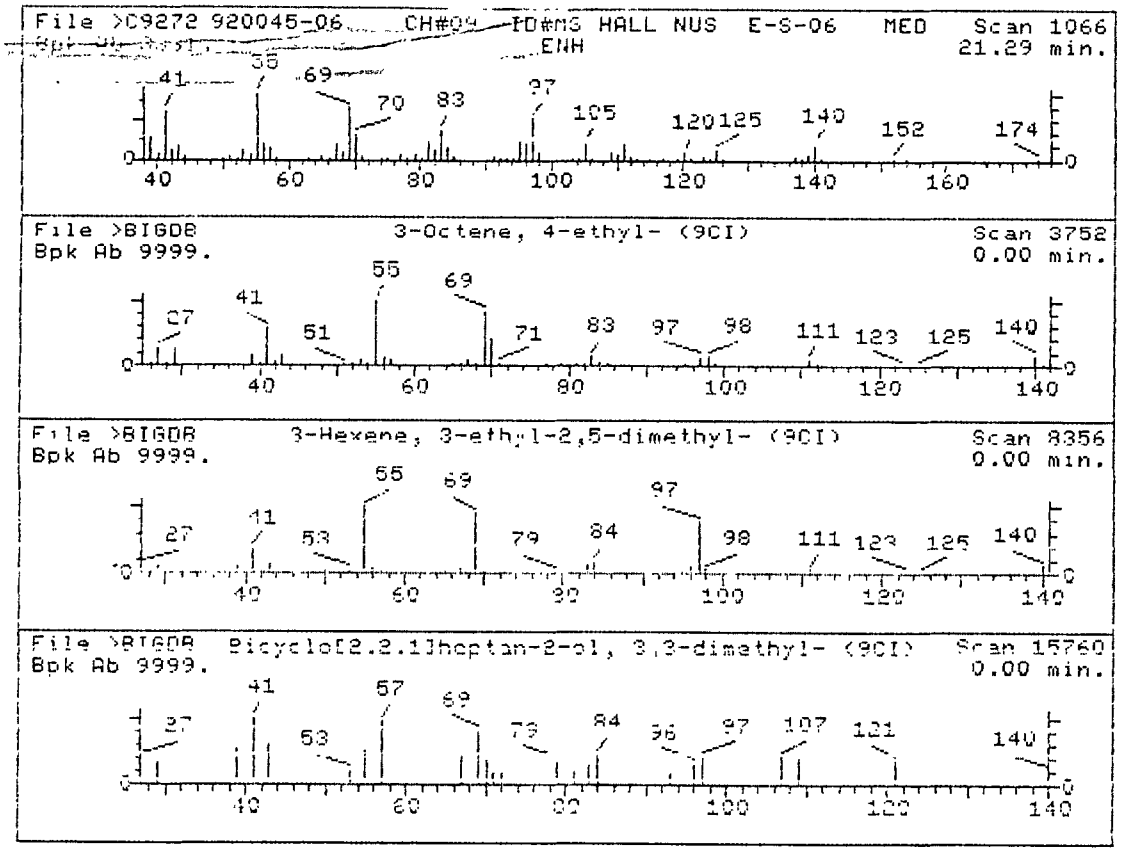
Sample: 920045-06 CH#09 Operator: VOA2 REG. GRP. 2/06/92 1:04
Misc : ID#MS HALL NUS E-S-06 MED SOIL 4G/10MLX200UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. 3-Octene, 4-ethyl- (9CI) 140 C10H20
2. 3-Hexene, 3-ethyl-2,5-dimethyl- (9CI) 140 C10H20
3. Bicyclo[2.2.1]heptan-2-ol, 3,3-dimethyl- (9CI) 140 C9H16O
4. 4-Octene, 2,6-dimethyl-, [S-(E)]- (9CI) 140 C10H20
5. 4-Octene, 2,6-dimethyl-, [S-(Z)]- (9CI) 140 C10H20

Sample file: >C9272 Spectrum #: 1066
Search speed: 2 Tilting option: S No. of ion ranges searched: 60

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	47*	53966511	3752	"BIGDB	43	65	0	0	77	45	16	48
2.	42*	62338083	8356	"BIGDB	34	65	0	0	80	40	17	31
3.	42*	5957686	15760	"BIGDB	40	90	3	0	73	24	17	13
4.	41*	62960763	15776	"BIGDB	33	67	0	0	100	39	17	30
5.	35*	62960774	3761	"BIGDB	34	65	0	0	75	47	11	31



$$\text{Conc} = \frac{162074}{333668} \times 50$$

$$= 24.0$$

220

Unknown

MS data file header from : >C9272::D5

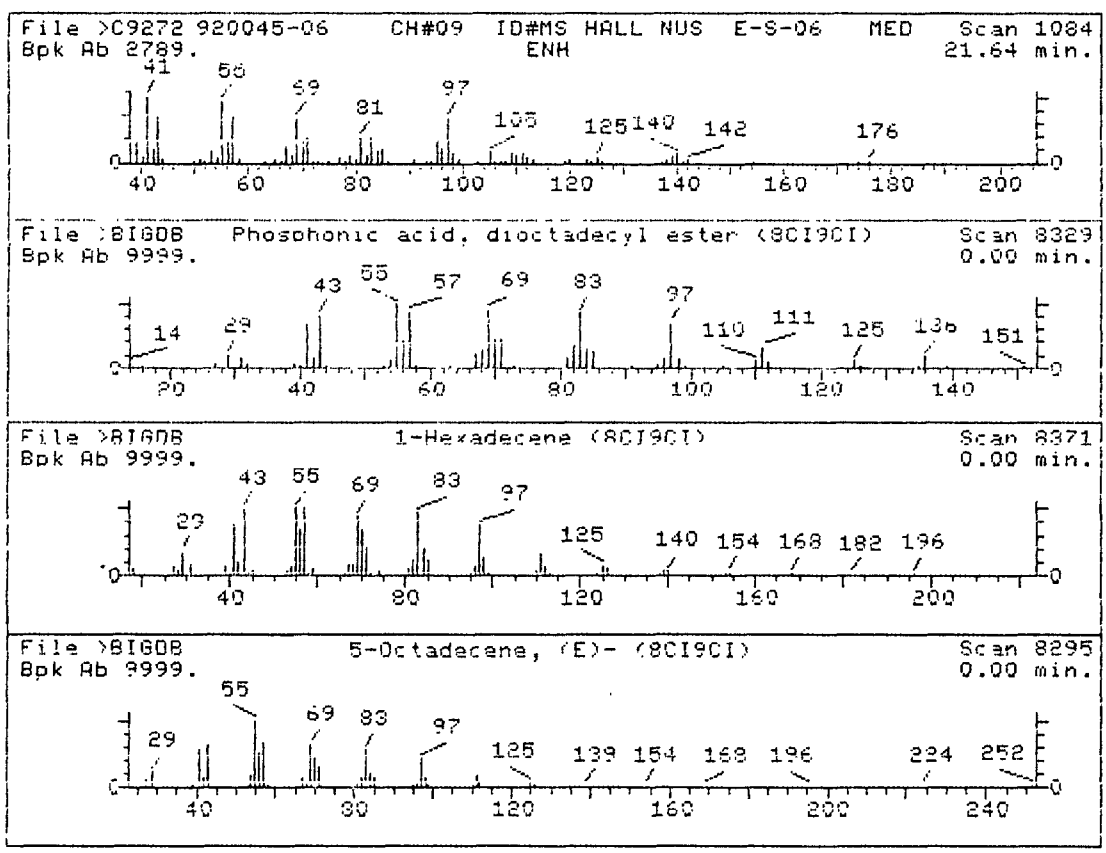
Sample: 920045-06 CH#09 Operator: VOA2 REG. GRP. 2/06/92 1:04
Misc : ID#MS HALL NUS E-S-06 MED SOIL 4G/10MLX200UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Phosphonic acid, dioctadecyl ester (8CI9CI) 586 C36H75O3P
2. 1-Hexadecene (8CI9CI) 224 C16H32
3. 5-Octadecene, (E)- (8CI9CI) 252 C18H36
4. Tridecanol (8CI9CI) 200 C13H28O
5. 3-Eicosene, (E)- (9CI) 280 C20H40

Sample file: >C9272 Spectrum #: 1084
Search speed: 2 Tilting option: S No. of ion ranges searched: 65

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	57	19047859	8329	"BIGDB	110	90	3	0	73	22	22	29
2.	47	629732	8371	"BIGDB	71	68	0	0	39	45	16	48
3.	40	7206215	8295	"BIGDB	72	73	0	0	60	48	12	49
4.	40	26248420	8399	"BIGDB	90	53	2	0	58	40	14	27
5.	36	74685339	8338	"BIGDB	71	74	1	0	48	43	12	27



Conc = $\frac{125842}{333668} \times 50$

= 19.0

221

Unknown

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-S-07

Lab Name: CEIMIC CORP Contract: NUG

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-07

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC241

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 4 Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	J
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	3	J
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	6	J
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	5	J
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	3	J
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	5	J
108-88-3	Toluene	5	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	4	J
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	13	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-07

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-07

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC241

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 4 Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

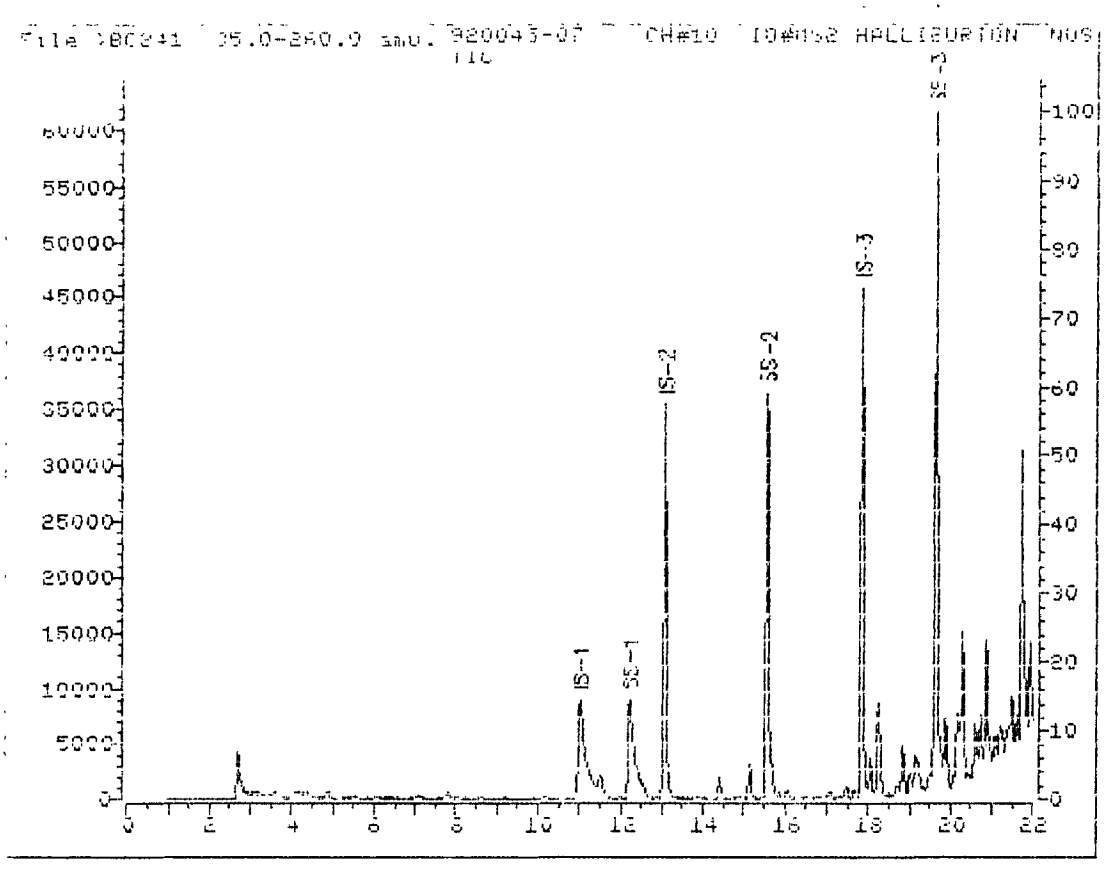
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	C3-benzene isomer	20.17	13	J
2. 000000	Unknown	20.29	22	J
3. 000000	C3-benzene isomer	20.86	16	J
4. 000000	Unknown	21.72	27	J

223



MS data file header from : >BC241::D4

Sample: 920045-07 CH#10 Operator: VOA2 REG. GRP. 2/03/92 19:28
Misc : ID#MS2 HALLIBURTON NUS E-S-07 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

Operator ID: VOA2 Quant Rev: 7 Quant Time: 920203 19:59
Output File: ^BC241::QT Injected at: 920203 19:28
Data File: >BC241::D4 Dilution Factor: 1.00000
Name: 920045-07 CH#10 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-07 LOW SOIL 5.0G+Q1-33

ID File: V2ID::D1
Title: VOLATILE ANALYSIS CLP-TCL DB624 75 Meters ID:MS2
Last Calibration: 910429 11:21 Last Qcal Time: 920203 16:58

		Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*CI01	Bromochloromethane	11.02	128.0	16916M	50.00	UG/L		
13)	CS15	1,2-Dichloroethane-d4	12.22	65.0	33019	49.03	UG/L	98%	97
16)	*CI10	1,4-Difluorobenzene	13.06	114.0	69233	50.00	UG/L		100
17)	C115	1,1,1-Trichloroethane	11.53	97.0	3095	4.36	UG/L		82
19)	C130	Bromodichloromethane	14.41	83.0	2873	3.21	UG/L		96
25)	C165	Benzene	12.28	78.0	4214	4.58	UG/L		100
26)	C143	cis-1,3-Dichloropropene	15.15	75.0	3647	5.35	UG/L		98
27)	C180	Bromoform	19.15	173.0	2823	2.77	UG/L		94
28)	*CI20	Chlorobenzene-d5	17.84	117.0	57066	50.00	UG/L		93
32)	C225	1,1,2,2-Tetrachloroethane	19.86	83.0	5040	5.20	UG/L		90
33)	C230	Toluene	15.68	91.0	4598	4.40	UG/L		97
34)	CS05	Toluene d-8	15.56	98.0	57350	47.07	UG/L	94%	90
36)	C240	Ethylbenzene	18.04	106.0	1475	3.89	UG/L		98
38)	C250	Total Xylenes	18.24	106.0	6251M	12.82	UG/L		86
39)	CS10	Bromofluorobenzene	19.64	95.0	52597	50.24	UG/L	100%	86

* Compound is ISTD

CB

reg	type	# pts	scan#	range: amu\r.t.		base	file	ion range
X	GC	1024	54	2.00-	21.99	61767.0	>BC241	35.00- 260.00

MS data file header from : >BC241::D4

Sample: 920045-07 CH#10 Operator: VOA2 REG. GRP. 2/03/92 19:28
Misc : ID#MS2 HALLIBURTON NUS E-S-07 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	.0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

>BC241 920045-07 CH#10 ID#MS2 HALLIBURTON NUS E-S-07 LOW SOI

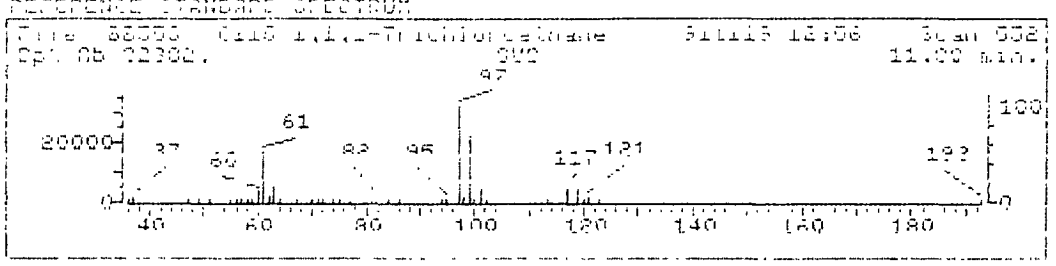
35.0| 260.0 TIC
Upslope: .2000 Area Reject:10.00 % Max Peaks: 13 Bunch: 1 Valley >100 %
Dnslope: 0.0000 Results File VDIR87 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	2.70	86	90	101	4155	29677	27321	10.44	2.064
2	11.02	510	516	536	8770	107649	103777	39.67	7.840
3	12.22	571	577	605	8964	102083	102083	39.02	7.712
4	13.06	615	620	638	35331	168273	165548	63.29	12.507
5	15.56	743	748	753	36226	162034	159687	61.05	12.064
6	17.84	860	865	872	45749	183144	180792	69.11	13.658
7	18.24	881	885	893	8393	47408	41740*	15.96	3.153
8	19.64	951	957	966	60438	284561	261587*	100.00	19.762
9	19.88	966	969	975	6270	41707	30338	11.60	2.292
10	20.17	975	984	987	6797	59630	44469	17.00	3.359
11	20.29	987	990	995	13257	74578	56820*	21.72	4.293
12	20.86	1016	1019	1026	11313	90643	54858*	20.97	4.144
13	21.72	1060	1063	1066	25897	133395	94662	36.19	7.151

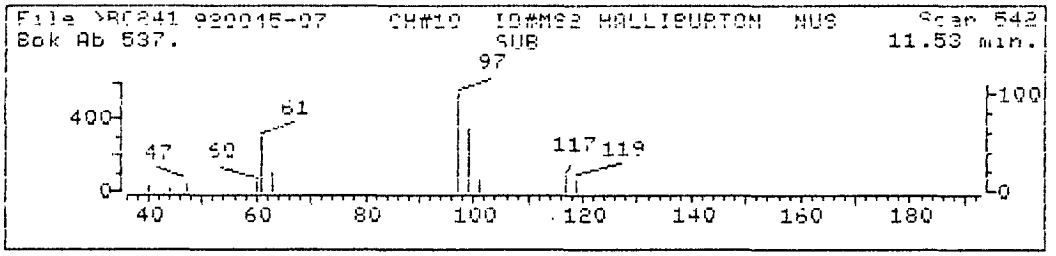
Sum of corrected areas: 1323682.

$4 TIC

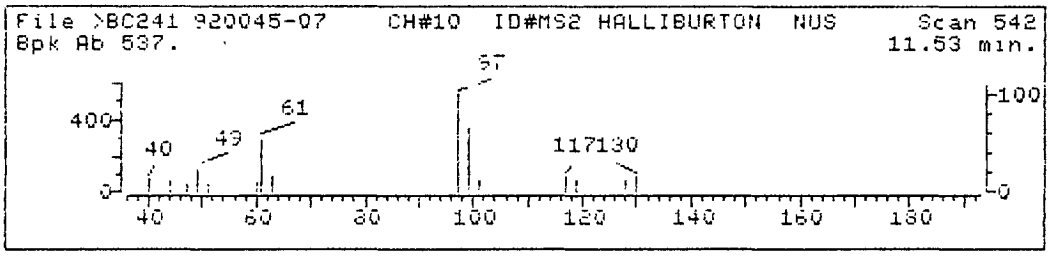
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

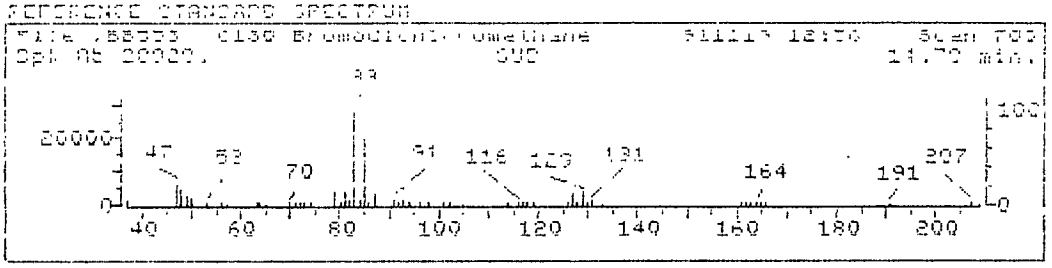


Data File: >BC241::D4 Quant Output File: ^BC241::QT
Name: 920045-07 CH#10 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-07 LOW SOIL 5.0G+Q1-33
Quant Time: 920203 19:59 Quant ID File: V2ID::D1
Injected at: 920203 19:28 Last Calibration: 910429 11:21
Last Qcal Time: 920203 16:58

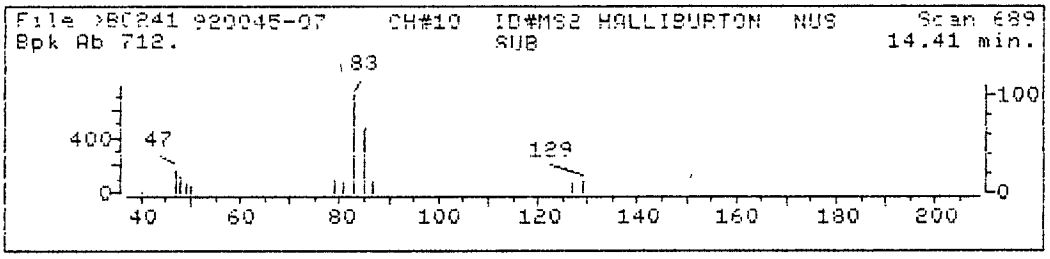
Compound No : 17
Compound Name : C115 1,1,1-Trichloroethane
Scan Number : 542
Retention Time: 11.53 min.
Quant Ion : 97.0
Area : 3095
Concentration : 4.36 UG/L
q-value : 82

CB

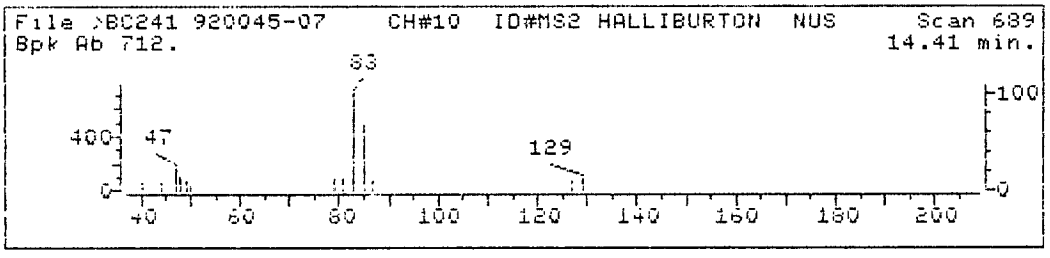
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

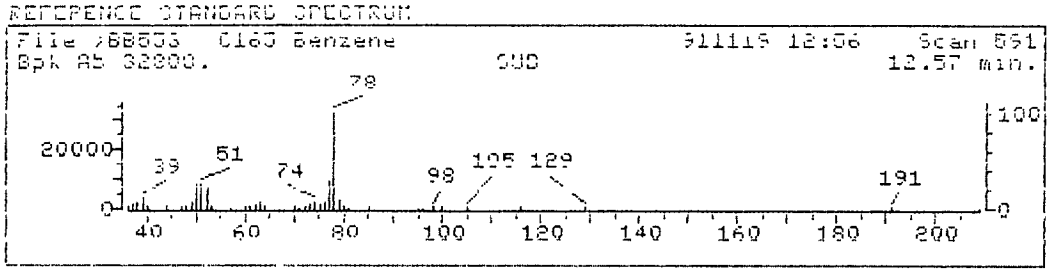


Data File: >BC241::D4 Quant Output File: ^BC241::QT
Name: 920045-07 CH#10 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-07 LOW SOIL 5.0G+Q1-33
Quant Time: 920203 19:59 Quant ID File: V2ID::D1
Injected at: 920203 19:28 Last Calibration: 910429 11:21
Last Qcal Time: 920203 16:58

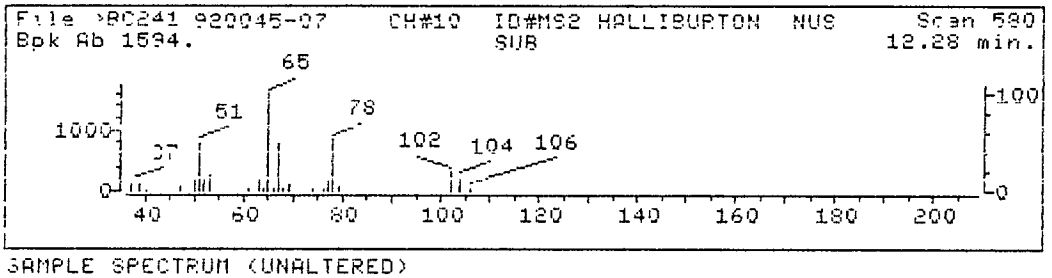
Compound No : 19
Compound Name : C130 Bromodichloromethane
Scan Number : 689
Retention Time: 14.41 min.
Quant Ion : 83.0
Area : 2873
Concentration : 3.21 UG/L
q-value : 96

CB

REFERENCE STANDARD SPECTRUM

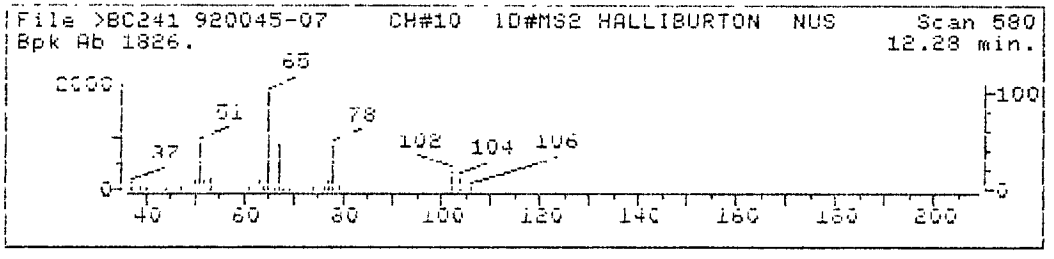


SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



m/z 65, 67 from 1,2-dichloro-ethane-d4

SAMPLE SPECTRUM (UNALTERED)

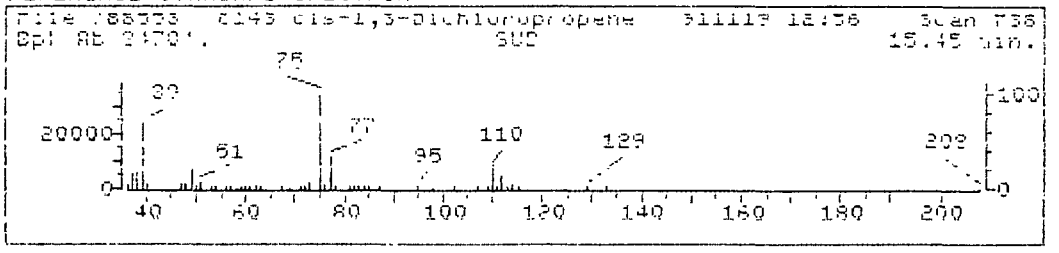


Data File: >BC241::D4 Quant Output File: ^BC241::QT
Name: 920045-07 CH#10 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-07 LOW SOIL 5.0G+Q1-33
Quant Time: 920203 19:59 Quant ID File: V2ID::D1
Injected at: 920203 19:28 Last Calibration: 910429 11:21
Last Qcal Time: 920203 16:58

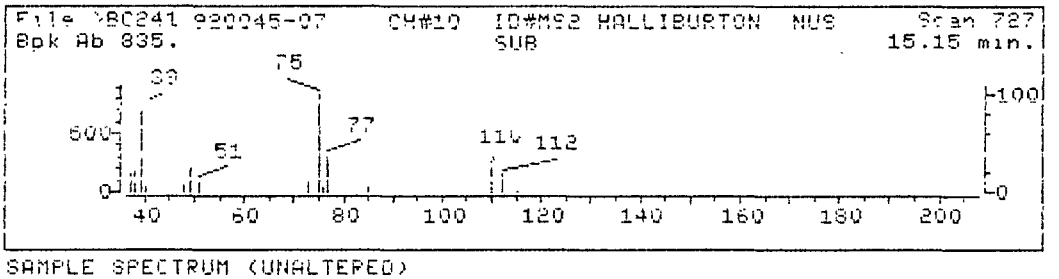
Compound No : 25
Compound Name : C165 Benzene
Scan Number : 580
Retention Time: 12.28 min.
Quant Ion : 78.0
Area : 4214
Concentration : 4.58 UG/L
q-value : 100

CB

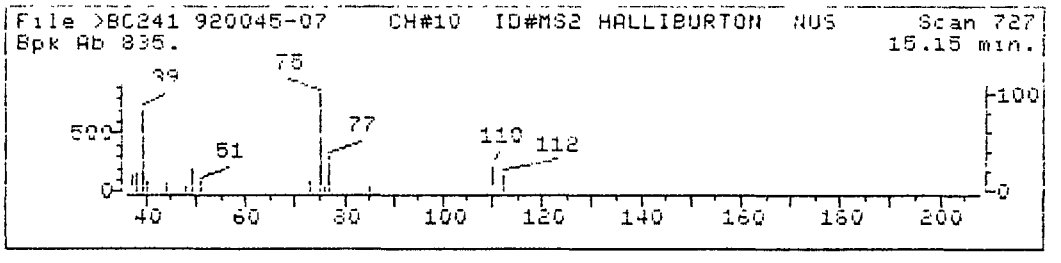
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

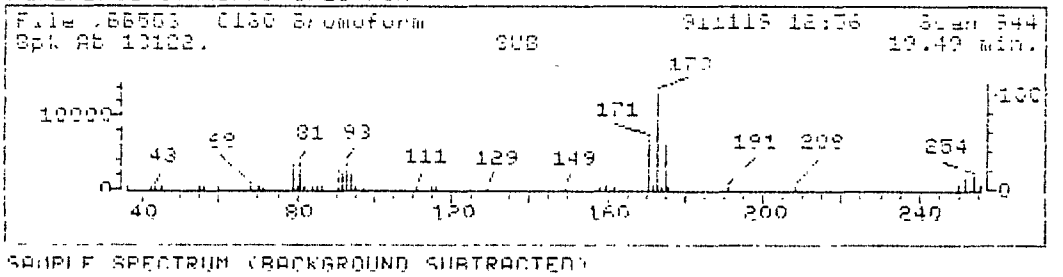


Data File: >BC241::D4 Quant Output File: ^BC241::QT
Name: 920045-07 CH#10 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-07 LOW SOIL 5.0G+Q1-33
Quant Time: 920203 19:59 Quant ID File: V2ID::D1
Injected at: 920203 19:28 Last Calibration: 910429 11:21
Last Qcal Time: 920203 16:58

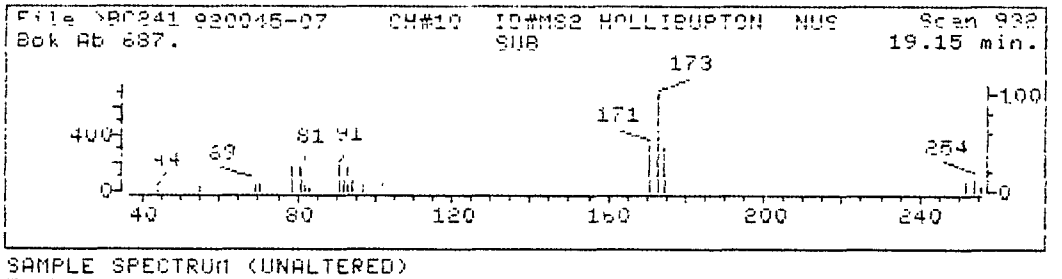
Compound No : 26
Compound Name : C143 cis-1,3-Dichloropropene
Scan Number : 727
Retention Time: 15.15 min.
Quant Ion : 75.0
Area : 3647
Concentration : 5.35 UG/L
q-value : 98

CB

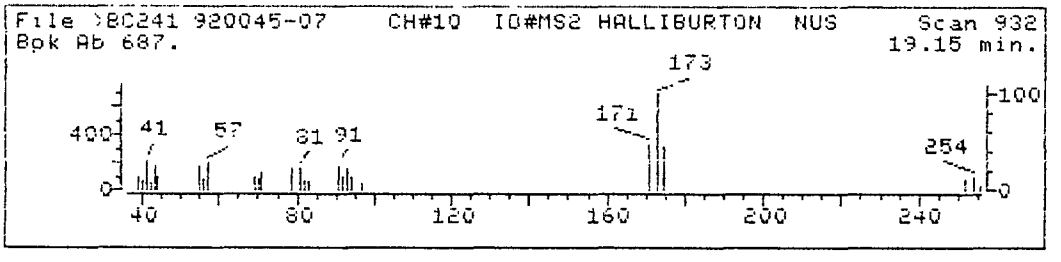
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

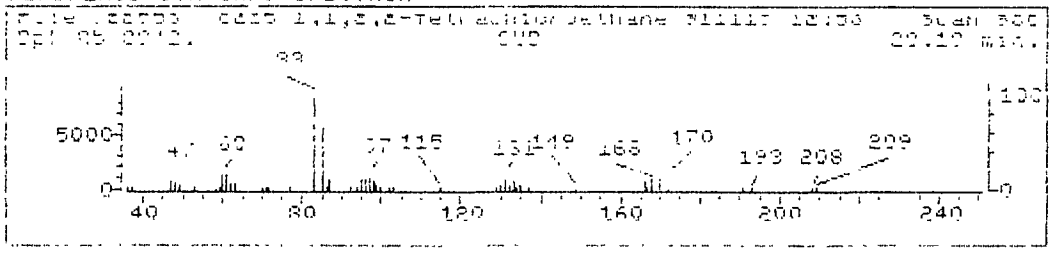


Data File: >BC241::D4 Quant Output File: ^BC241::QT
Name: 920045-07 CH#10 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-07 LOW SOIL 5.0G+Q1-33
Quant Time: 920203 19:59 Quant ID File: V2ID::D1
Injected at: 920203 19:28 Last Calibration: 910429 11:21
Last Qcal Time: 920203 16:58

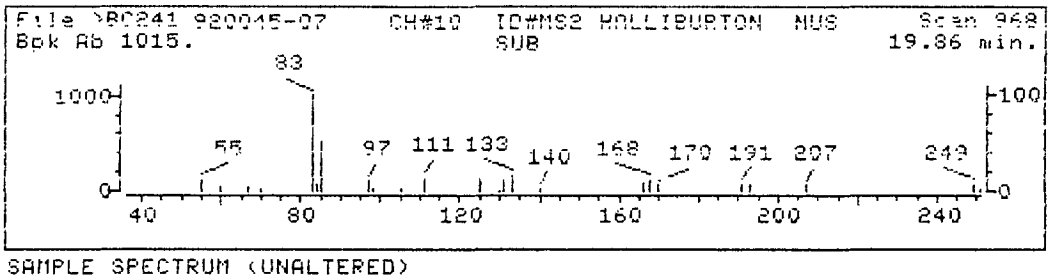
Compound No : 27
Compound Name : C180 Bromoform
Scan Number : 932
Retention Time: 19.15 min.
Quant Ion : 173.0
Area : 2823
Concentration : 2.77 UG/L
q-value : 94

CB

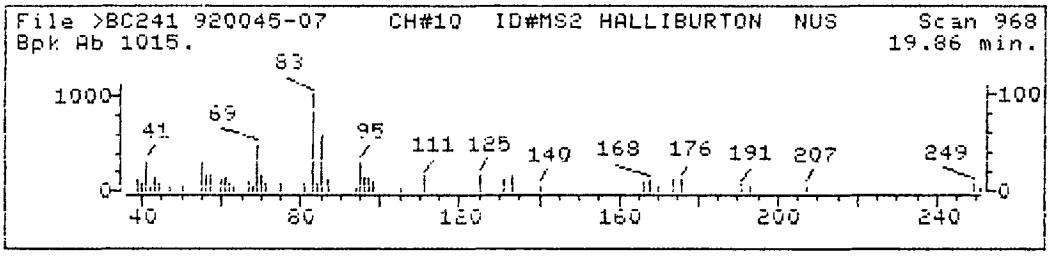
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

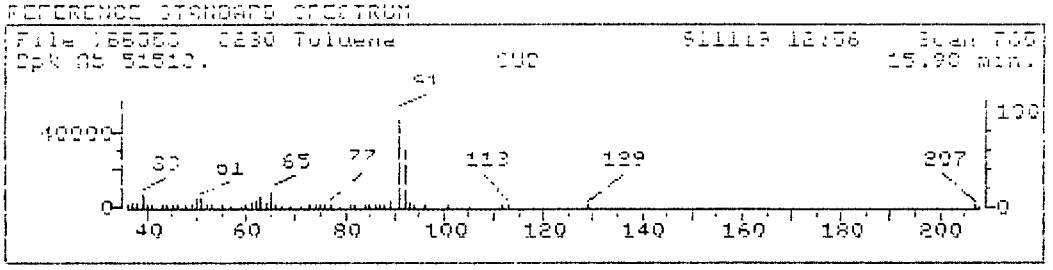


Data File: >BC241::D4 Quant Output File: ^BC241::QT
Name: 920045-07 CH#10 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-07 LOW SOIL 5.0G+Q1-33
Quant Time: 920203 19:59 Quant ID File: V2ID::D1
Injected at: 920203 19:28 Last Calibration: 910429 11:21
Last Qcal Time: 920203 16:58

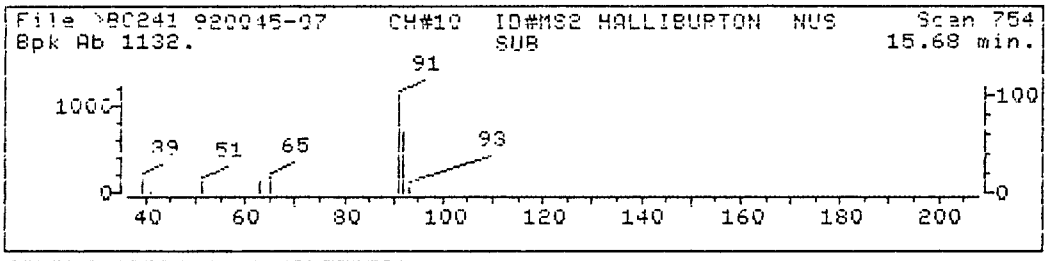
Compound No : 32
Compound Name : C225 1,1,2,2-Tetrachloroethane
Scan Number : 968
Retention Time: 19.86 min.
Quant Ion : 83.0
Area : 5040
Concentration : 5.20 UG/L
q-value : 90

OB

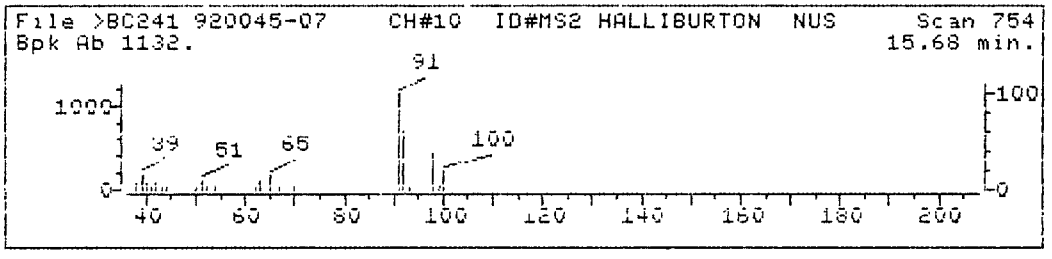
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

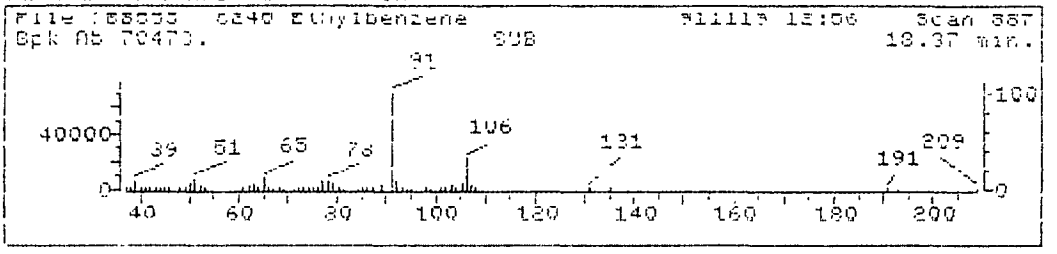


Data File: >BC241::D4 Quant Output File: ^BC241::QT
Name: 920045-07 CH#10 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-07 LOW SOIL 5.0G+Q1-33
Quant Time: 920203 19:59 Quant ID File: V2ID::D1
Injected at: 920203 19:28 Last Calibration: 910429 11:21
Last Qcal Time: 920203 16:58

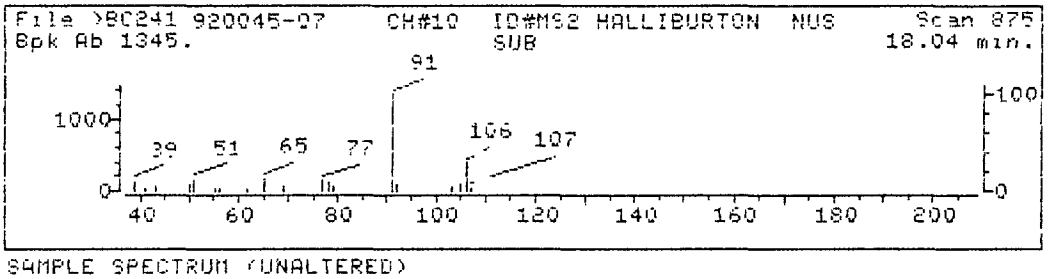
Compound No : 33
Compound Name : C230 Toluene
Scan Number : 754
Retention Time: 15.68 min.
Quant Ion : 91.0
Area : 4598
Concentration : 4.40 UG/L
q-value : 97

CB

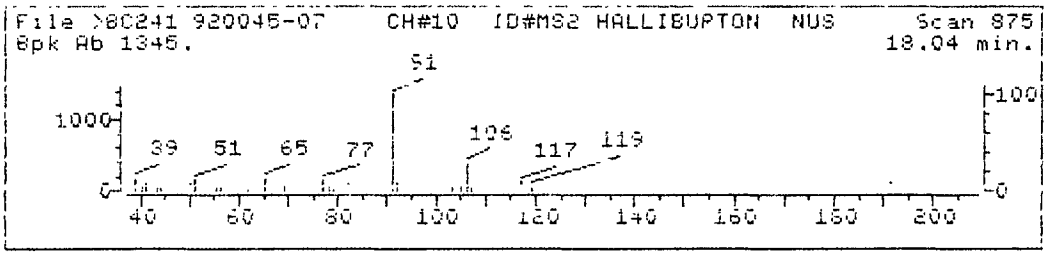
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

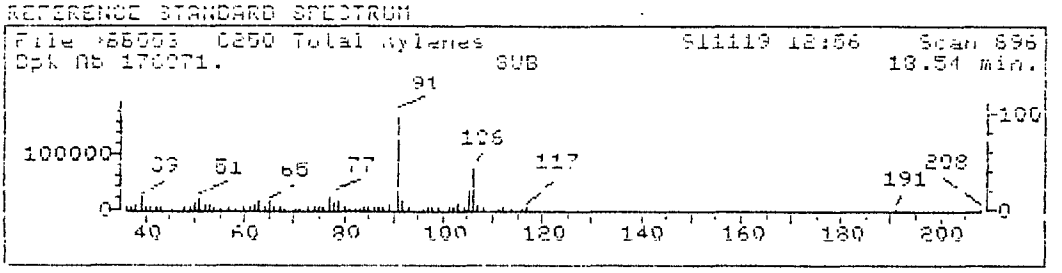


Data File: >BC241::D4 Quant Output File: ^BC241::QT
Name: 920045-07 CH#10 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-07 LOW SOIL 5.0G+Q1-33
Quant Time: 920203 19:59 Quant ID File: V2ID::D1
Injected at: 920203 19:28 Last Calibration: 910429 11:21
Last Qcal Time: 920203 16:58

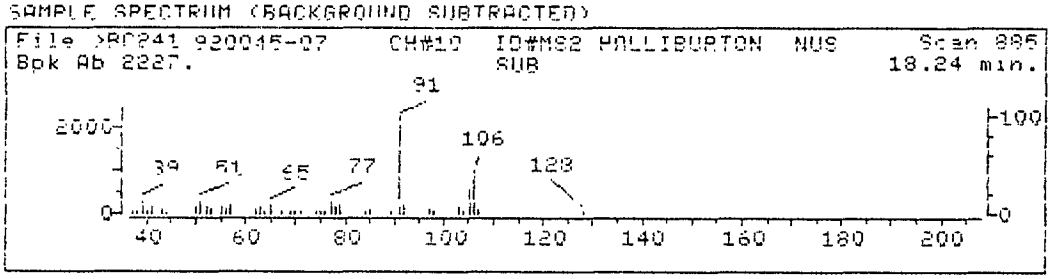
Compound No : 36
Compound Name : C240 Ethylbenzene
Scan Number : 875
Retention Time: 18.04 min.
Quant Ion : 106.0
Area : 1475
Concentration : 3.89 UG/L
q-value : 98

CB

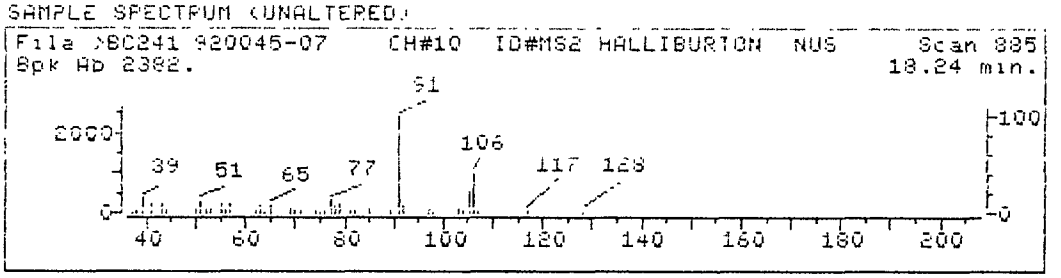
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >BC241::D4 Quant Output File: ^BC241::QT
Name: 920045-07 CH#10 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-07 LOW SOIL 5.0G+Q1-33
Quant Time: 920203 19:59 Quant ID File: V2ID::D1
Injected at: 920203 19:28 Last Calibration: 910429 11:21
Last Qcal Time: 920203 16:58

Compound No : 38
Compound Name : C250 Total Xylenes
Scan Number : 885
Retention Time: 18.24 min.
Quant Ion : 106.0
Area : 6251M
Concentration : 12.82 UG/L
q-value : 86

CB

MS data file header from : >BC241::D4

Sample: 920045-07 CH#10 Operator: VOA2 REG. GRP. 2/03/92 19:28
Misc : ID#MS2 HALLIBURTON NUS E-S-07 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

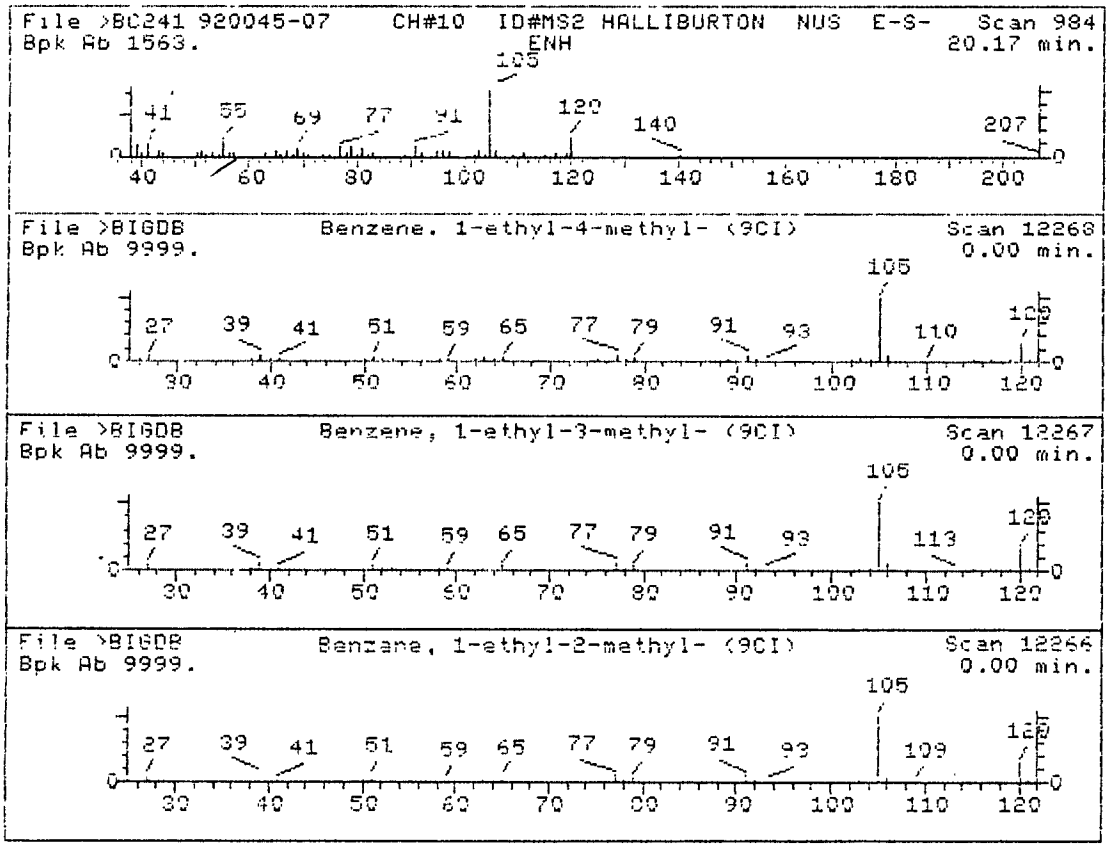
Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12
2. Benzene, 1-ethyl-3-methyl- (9CI) 120 C9H12
3. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
4. Benzene, (1-methylethyl)- (9CI) 120 C9H12
5. Benzene, 1,1'-(1-methyl-1,2-ethanediyl)bis- (9CI) 196 C15H16

Sample file: >BC241 Spectrum #: 984
Search speed: 2 Tilting option: S No. of ion ranges searched: 57

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	84*	622968	12268	"BIGDB	62	23	1	0	96	10	55	67
2.	79*	620144	12267	"BIGDB	65	22	1	0	83	12	43	69
3.	76*	611143	12266	"BIGDB	65	20	2	0	96	12	40	55
4.	63*	98828	12259	"BIGDB	50	37	2	0	100	17	30	31
5.	38	5814857	9857	"BIGDB	56	43	2	0	100	30	14	15

C3-benzene isomer



$$\text{conc} = \frac{4449}{180792} \times 50$$

$= 12$

GAR

236

MS data file header from : >BC241::D4

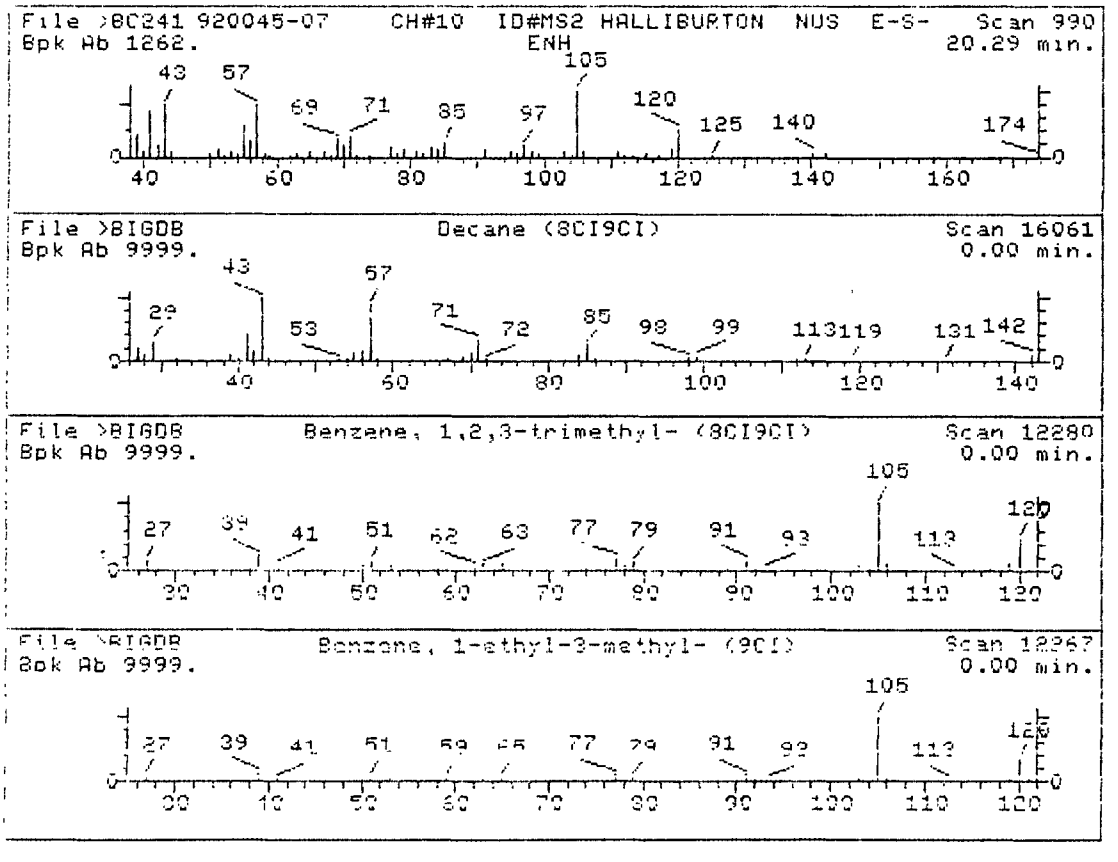
Sample: 920045-07 CH#10 Operator: VOA2 REG. GRP. 2/03/92 19:28
Misc : ID#MS2 HALLIBURTON NUS E-S-07 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Decane (8CI9CI) 142 C10H22
2. Benzene, 1,2,3-trimethyl- (8CI9CI) 120 C9H12
3. Benzene, 1-ethyl-3-methyl- (9CI) 120 C9H12
4. Benzene, 1,3,5-trimethyl- (9CI) 120 C9H12
5. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12

Sample file: >BC241 Spectrum #: 990
Search speed: 2 Tilting option: S No. of ion ranges searched: 52

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	61*	124185	16061	"BIGDB	71	29	2	1	64	35	22	46
2.	55*	526738	12280	"BIGDB	62	38	2	0	71	34	22	40
3.	53*	620144	12267	"BIGDB	50	37	2	2	100	25	22	25
4.	48*	108678	12275	"BIGDB	46	42	2	1	68	24	17	19
5.	47*	611143	12266	"BIGDB	50	35	2	1	100	27	19	25



conc = 74578 / 180792

= 21.

237

MS data file header from : >BC241::D4

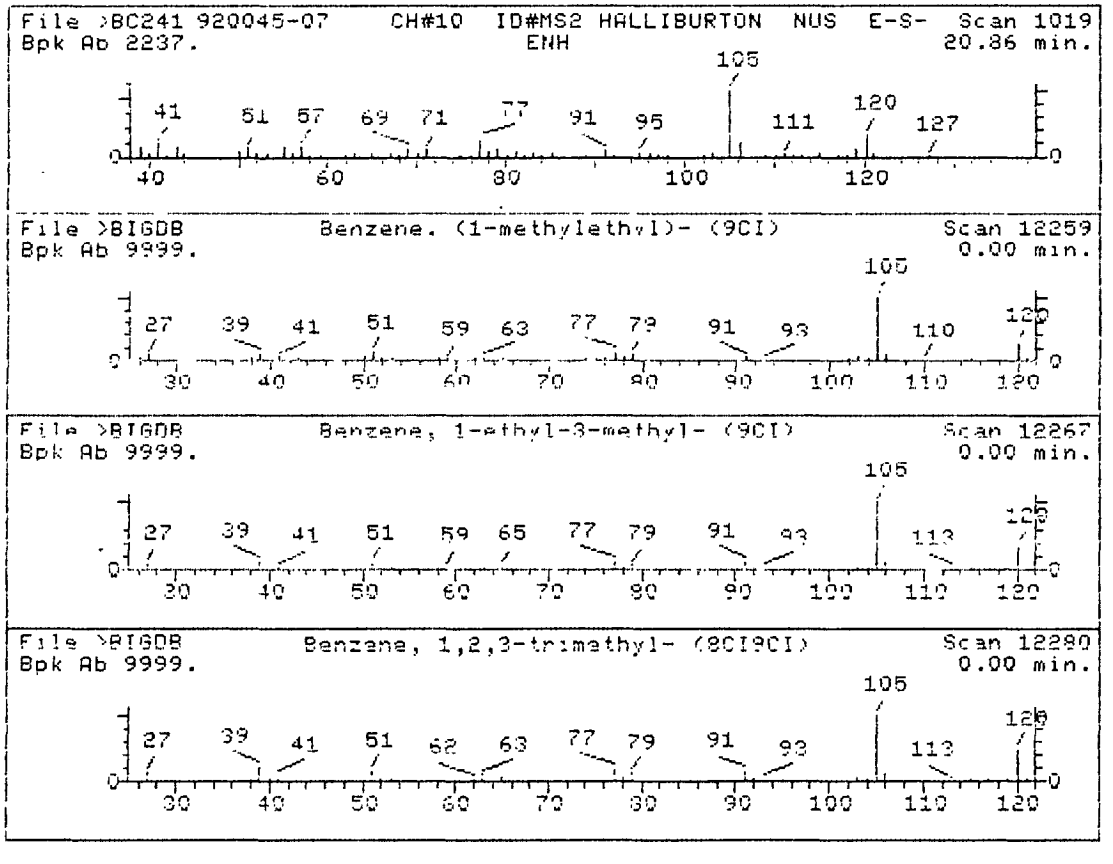
Sample: 920045-07 CH#10 Operator: VOA2 REG. GRP. 2/03/92 19:28
Misc : ID#MS2 HALLIBURTON NUS E-S-07 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Benzene, (1-methylethyl)- (9CI) 120 C9H12
2. Benzene, 1-ethyl-3-methyl- (9CI) 120 C9H12
3. Benzene, 1,2,3-trimethyl- (8CI9CI) 120 C9H12
4. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
5. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12

Sample file: >BC241 Spectrum #: 1019
Search speed: 2 Tilting option: S No. of ion ranges searched: 62

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	67*	98828	12259	"BIGDB	59	28	1	0	100	26	27	59
2.	55*	620144	12267	"BIGDB	47	40	2	0	100	24	22	27
3.	53*	526738	12280	"BIGDB	60	40	1	0	52	45	17	56
4.	49*	611143	12266	"BIGDB	47	38	2	0	100	26	19	27
5.	49*	622968	12268	"BIGDB	47	38	2	0	100	26	19	27



C3-benzene isomer

conc = 54858 / 180792 x 50

= 15

238

MS data file header from : >BC241::D4

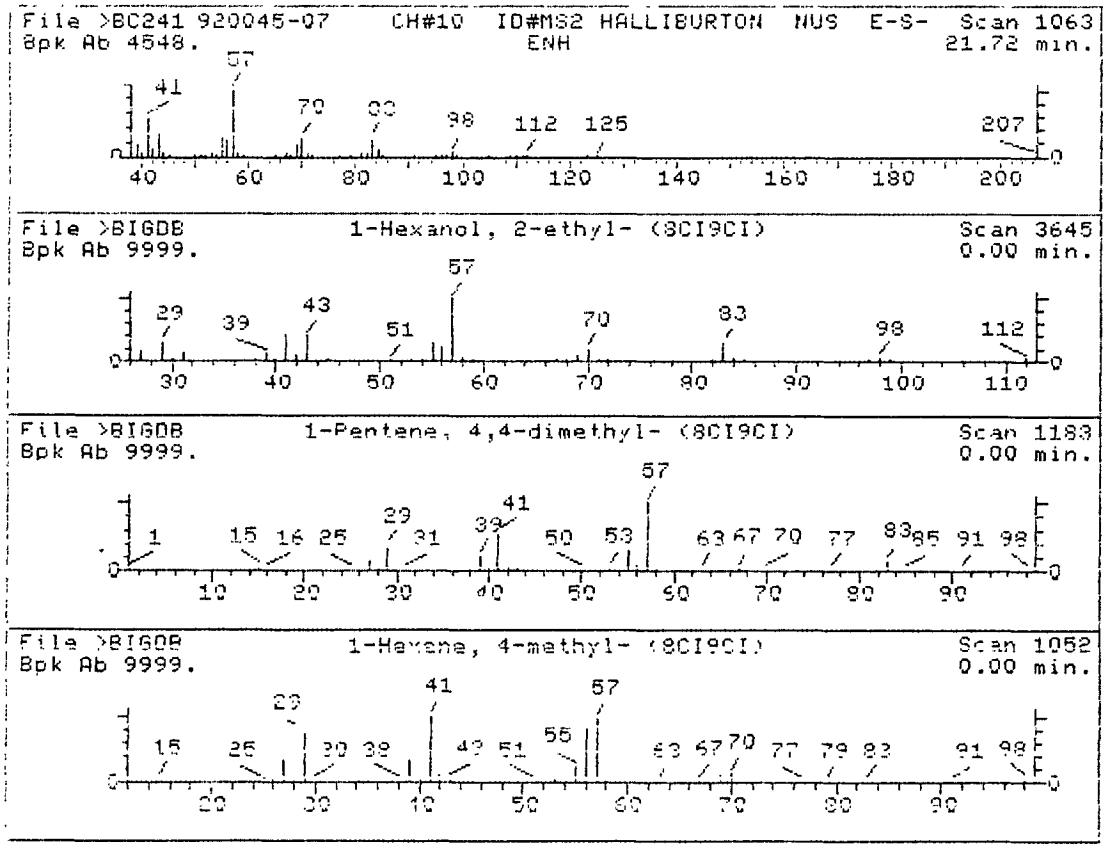
Sample: 920045-07 CH#10 Operator: VOA2 REG. GRP. 2/03/92 19:28
Misc : ID#MS2 HALLIBURTON NUS E-S-07 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. 1-Hexanol, 2-ethyl- (8CI9CI) 130 C8H18O
2. 1-Pentene, 4,4-dimethyl- (8CI9CI) 98 C7H14
3. 1-Hexene, 4-methyl- (8CI9CI) 98 C7H14
4. Diazene, bis(1,1-dimethylethyl)- (9CI) 142 C8H18N2
5. Heptane, 2-bromo- (8CI9CI) 178 C7H15Br

Sample file: >BC241 Spectrum #: 1063
Search speed: 2 Tilting option: S No. of ion ranges searched: 50

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	70	104767	3645	"BIGDB	52	42	2	0	92	7	42	16
2.	47*	762629	1183	"BIGDB	35	41	0	0	92	40	17	36
3.	26*	3769231	1052	"BIGDB	24	69	2	0	104	41	8	14
4.	25	927833	1176	"BIGDB	34	37	1	0	93	49	7	12
5.	25	1974045	1201	"BIGDB	36	48	1	0	74	43	8	13



conc = $\frac{94662}{180792} \times 50$

= 26.

239

Unknown

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-S-07D

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-08

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC242

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 5 Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	4	J
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	34	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-07D

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-08

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC242

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 5 Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

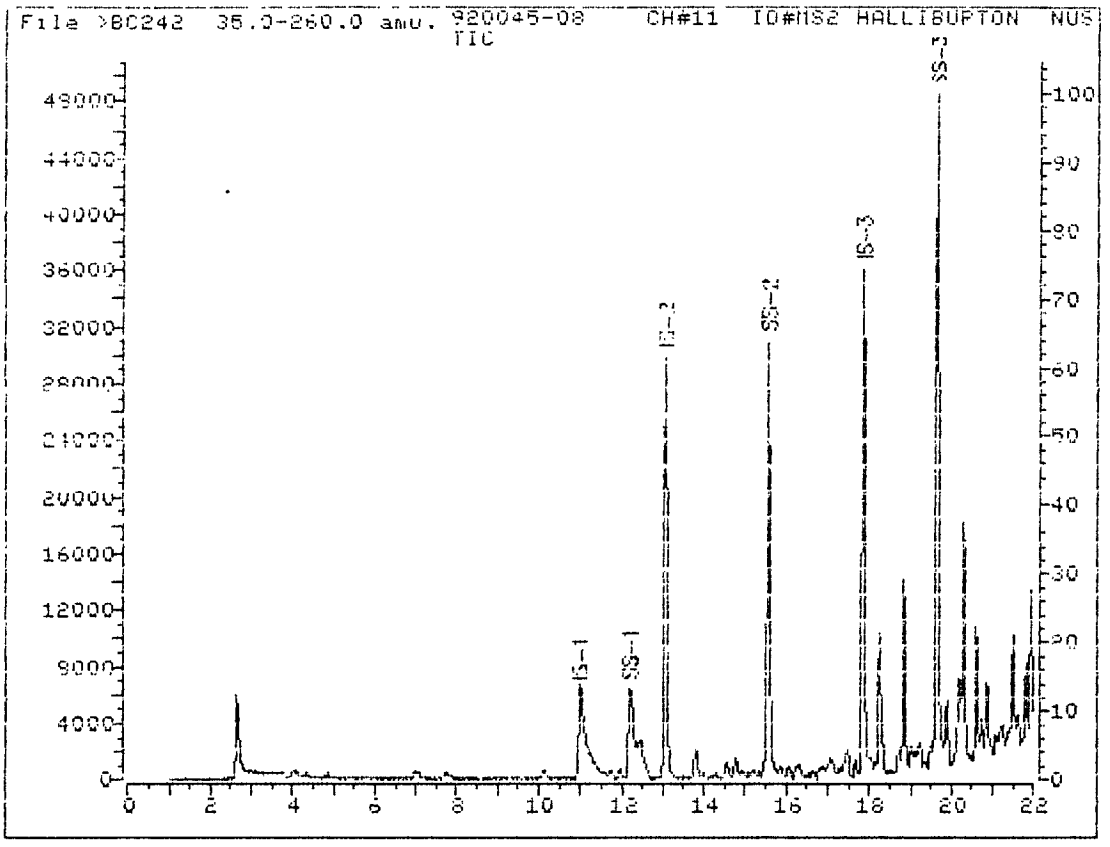
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	C3-benzene isomer	20.28	25	J
2. 000000	C3-benzene isomer	20.60	15	J

241



MS data file header from : >BC242::D4

Sample: 920045-08 CH#11 Operator: VOA2 REG. GRP. 2/03/92 20:04
Misc : ID#MS2 HALLIBURTON NUS E-S-07D LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

Operator ID: VOA2 Quant Rev: 7 Quant Time: 920203 20:35
Output File: `BC242::QT Injected at: 920203 20:04
Data File: >BC242::D4 Dilution Factor: 1.00000
Name: 920045-08 CH#11 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-07D LOW SOIL 5.0G+01-33

ID File: V2ID::D1
Title: VOLATILE ANALYSIS CLP-TCL DB624 75 Meters ID:MS2
Last Calibration: 910429 11:21 Last Qcal Time: 920203 16:58

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	10.98	128.0	13010M	50.00	UG/L	72
13)	CS15 1,2-Dichloroethane-d4	12.19	65.0	25691	49.60	UG/L 99%	95
16)	*CI10 1,4-Difluorobenzene	13.05	114.0	54926	50.00	UG/L	100
25)	C165 Benzene	12.27	78.0	2950	4.04	UG/L	100
28)	*CI20 Chlorobenzene-d5	17.84	117.0	42728	50.00	UG/L	95
34)	CS05 Toluene d-8	15.55	98.0	48552	53.23	UG/L 106%	98
38)	C250 Total Xylenes	18.84	106.0	11868M	32.50	UG/L	86
39)	CS10 Bromofluorobenzene	19.64	95.0	43176	55.08	UG/L 110%	96

* Compound is ISTD

243

CB

reg	type	# pts	scan#	range: amu\r.t.		base	file	ion range
X	GC	1025	50	1.99-	22.01	48550.0	>BC242	35.00- 260.00

MS data file header from : >BC242::D4

Sample: 920045-08 CH#11 Operator: VOA2 REG. GRP. 2/03/92 20:04
Misc : ID#MS2 HALLIBURTON NUS E-S-07D LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

>BC242 920045-08 CH#11 ID#MS2 HALLIBURTON NUS E-S-07D LOW SOI

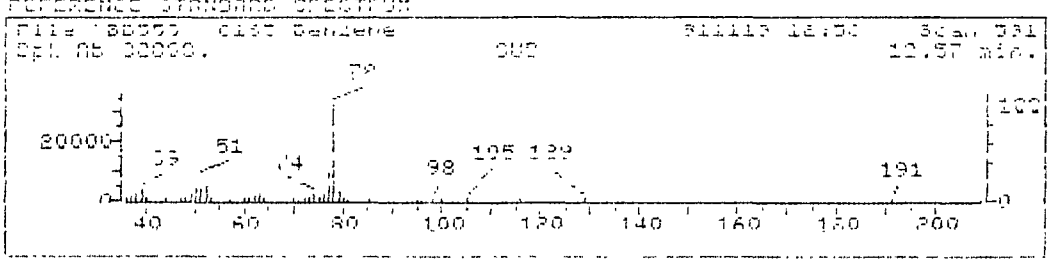
35.0| 260.0 TIC
Upslope: .2000 Area Reject:20.00 % Max Peaks: 11 Bunch: 1 Valley >100 %
Dnslope: 0.0000 Results File VDIR87 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	2.66	77	84	95	5838	37921	36549	20.16	3.736
2	11.00	505	511	522	6556	69155	66503	36.68	6.798
3	12.19	566	572	580	6226	56290	54122	29.85	5.532
4	13.05	611	616	633	29815	138997	137629	75.92	14.069
5	15.55	736	744	757	30794	147644	143824	79.34	14.702
6	17.84	857	861	870	35550	150256	143495	79.15	14.668
7	18.23	877	881	890	10000	60150	53786	29.67	5.498
8	18.84	909	912	918	13366	60705	52337*	28.87	5.350
9	19.64	949	953	962	46247	215218	181284	100.00	18.531
10	20.28	983	986	992	16685	84347	68020	37.52	6.953
11	20.60	999	1002	1007	9469	54094	40714	22.46	4.162

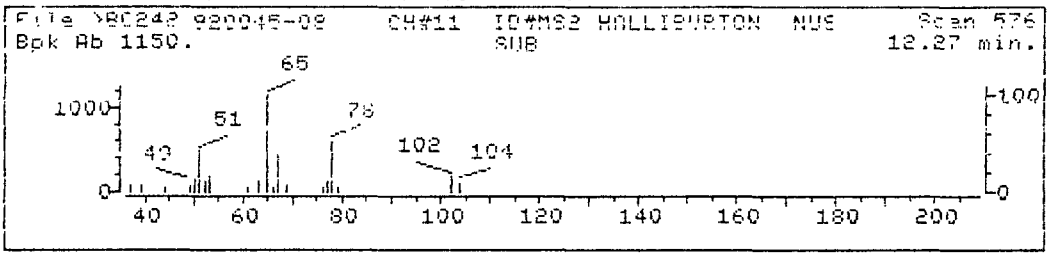
Sum of corrected areas: 978263.

2B TIC

REFERENCE STANDARD SPECTRUM

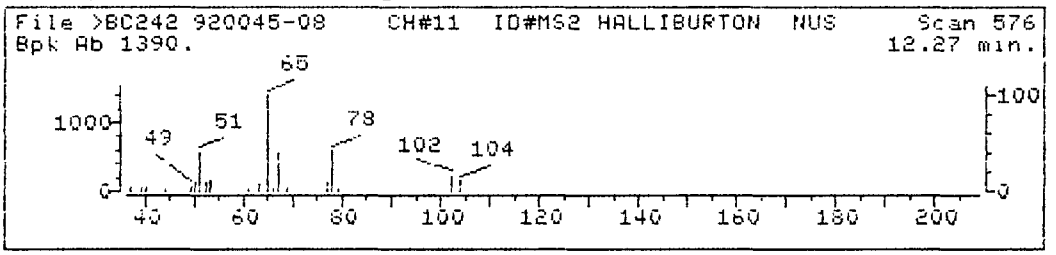


SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



m/z 65, 67 from 1,2-dichloroethane-d4 C/C

SAMPLE SPECTRUM (UNALTERED)

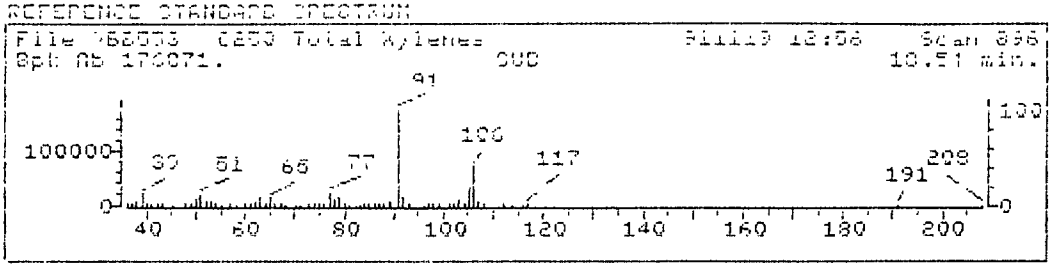


Data File: >BC242::D4 Quant Output File: ^BC242::QT
Name: 920045-08 CH#11 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-07D LOW SOIL 5.0G+Q1-33
Quant Time: 920203 20:35 Quant ID File: V2ID::D1
Injected at: 920203 20:04 Last Calibration: 910429 11:21
Last Qcal Time: 920203 16:58

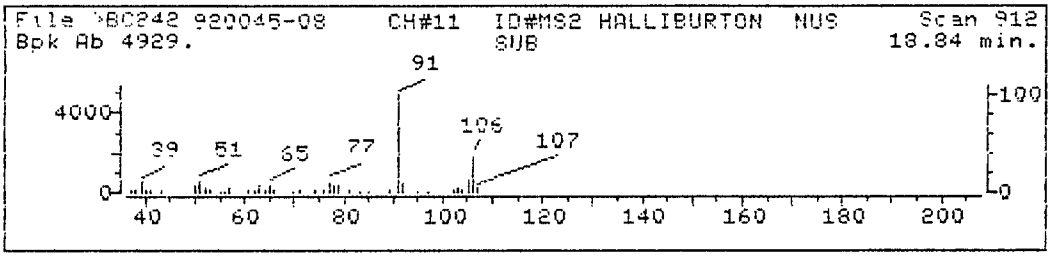
Compound No : 25
Compound Name : C165 Benzene
Scan Number : 576
Retention Time: 12.27 min.
Quant Ion : 78.0
Area : 2950
Concentration : 4.04 UG/L
q-value : 100

CB

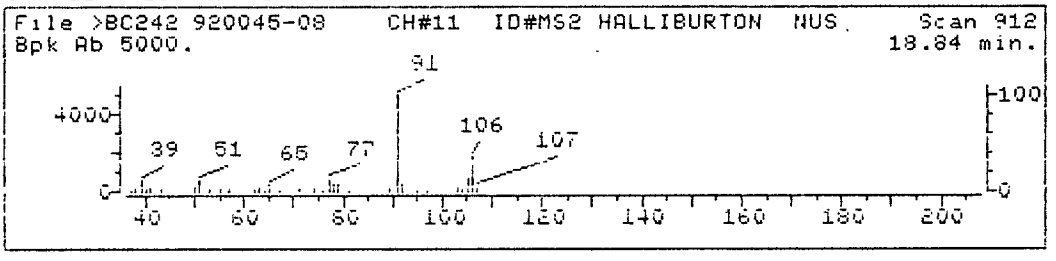
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >BC242::D4 Quant Output File: ^BC242::QT
Name: 920045-08 CH#11 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-07D LOW SOIL 5.0G+Q1-33
Quant Time: 920203 20:35 Quant ID File: V2ID::D1
Injected at: 920203 20:04 Last Calibration: 910429 11:21
Last Qcal Time: 920203 16:58

Compound No : 38
Compound Name : C250 Total Xylenes
Scan Number : 912
Retention Time: 18.84 min.
Quant Ion : 106.0
Area : 11868M
Concentration : 32.50 UG/L
q-value : 86

CB

MS data file header from : >BC242::D4

Sample: 920045-08 CH#11 Operator: VOA2 REG. GRP. 2/03/92 20:04
Misc : ID#MS2 HALLIBURTON NUS E-S-07D LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

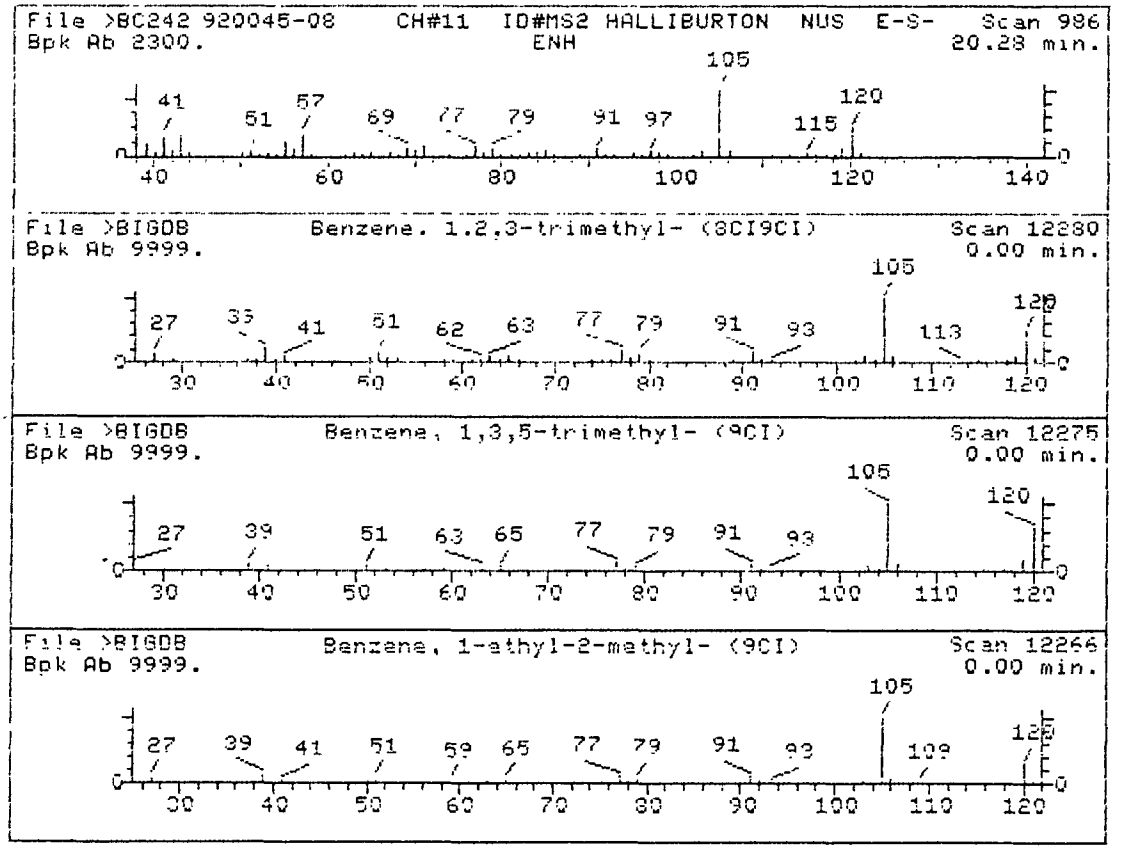
1. Benzene, 1,2,3-trimethyl- (8CI9CI) 120 C9H12
2. Benzene, 1,3,5-trimethyl- (9CI) 120 C9H12
3. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
4. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12
5. Benzene, 1-ethyl-3-methyl- (9Cl) 120 C9H12

Sample file: >BC242 Spectrum #: 986
Search speed: 2 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	86*	526738	12280	"BIGDB	73	27	1	0	67	10	59	72
2.	81*	108678	12275	"BIGDB	56	32	2	0	67	10	53	42
3.	74*	611143	12266	"BIGDB	60	25	2	0	100	15	39	46
4.	74*	622968	12268	"BIGDB	60	25	2	0	100	15	39	46
5.	74*	620144	12267	"BIGDB	60	27	2	0	100	13	39	46

C3-benzene isomer

$$\text{Conc} = \frac{68020}{143495} \times 50 = 24$$



247

MS data file header from : >BC242::D4

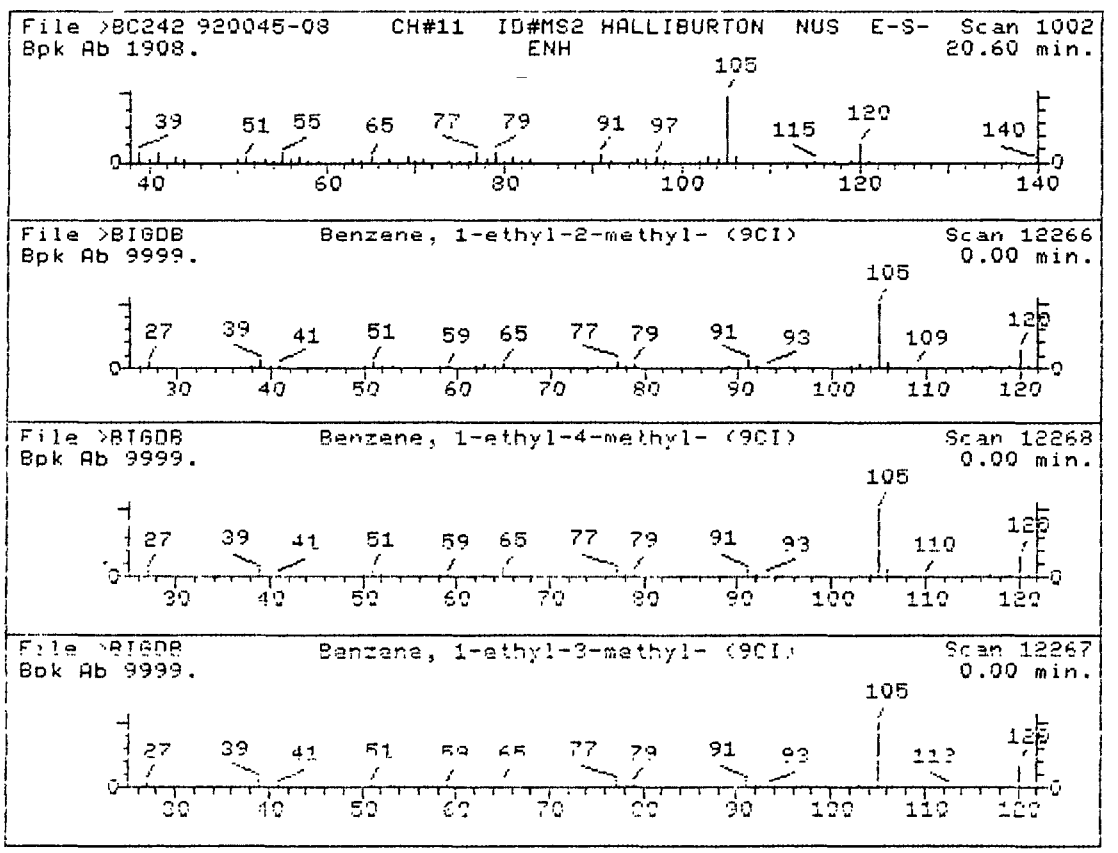
Sample: 920045-08 CH#11 Operator: VOA2 REG. GRP. 2/03/92 20:04
Misc : ID#MS2 HALLIBURTON NUS E-S-07D LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
2. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12
3. Benzene, 1-ethyl-3-methyl- (9CI) 120 C9H12
4. Benzene, (1-methylethyl)- (9CI) 120 C9H12
5. Benzene, 1,1'-(1-methyl-1,2-ethanediyl)bis- (9CI) 196 C15H16

Sample file: >BC242 Spectrum #: 1002
Search speed: 2 Tilting option: S No. of ion ranges searched: 53

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	95*	611143	12266	"BIGDB	73	12	0	0	87	6	68	95
2.	93*	622968	12268	"BIGDB	72	13	0	3	73	8	68	92
3.	81*	620144	12267	"BIGDB	62	25	2	0	83	6	53	49
4.	76*	98828	12259	"BIGDB	66	21	1	-2	94	12	40	54
5.	52	5814857	9857	"BIGDB	54	45	2	0	100	20	20	14



C3 benzene isomer of/L

conc = 40714 / 143495 x50

= 14.

unknown 248

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-S-08

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-09

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC243

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 14 Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	12	U
67-64-1	Acetone	72	
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-08

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-09

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC243

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 14 Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

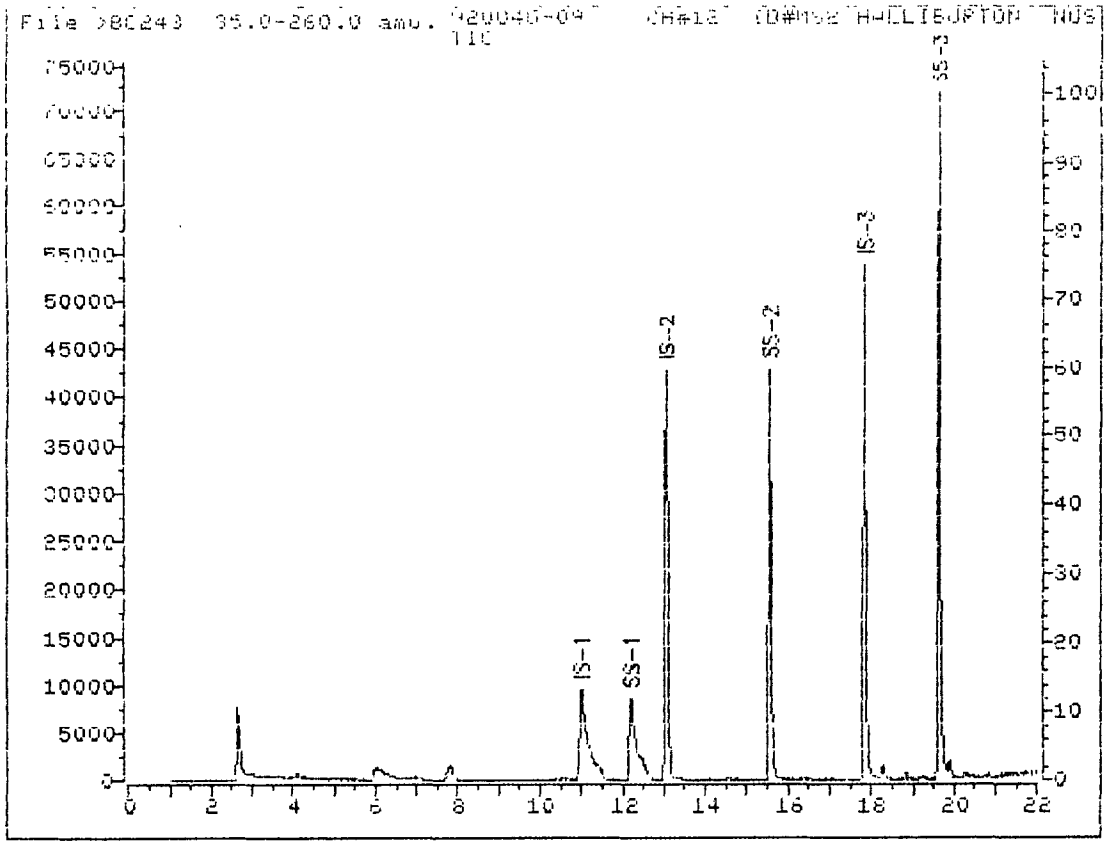
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	Unknown	7.81	7	J

250



MS data file header from : >BC243::D4

Sample: 920045-09 CH#12 Operator: VOA2 REG. GRP. 2/03/92 20:40
Misc : ID#MS2 HALLIBURTON NUS E-S-08 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

Operator ID: VOA2 Quant Rev: 7 Quant Time: 920203 21:11
Output File: ^BC243::QT Injected at: 920203 20:40
Data File: >BC243::D4 Dilution Factor: 1.00000
Name: 920045-09 CH#12 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-08 LOW SOIL 5.0G+Q1-33

ID File: V2ID::D1
Title: VOLATILE ANALYSIS CLP-TCL DB624 75 Meters ID:MS2
Last Calibration: 910429 11:21 Last Qcal Time: 920203 16:58

	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*CI01 Bromochloromethane	11.00	128.0	20260M	50.00	UG/L		
7)	C035 Acetone	6.02	43.0	15743	~~61.78~~	~~UG/L~~		75
13)	CS15 1,2-Dichloroethane-d4	12.21	65.0	38864	~~48.18~~	~~UG/L~~	96%	95
16)	*CI10 1,4-Difluorobenzene	13.05	114.0	81696	50.00	UG/L		100
28)	*CI20 Chlorobenzene-d5	17.84	117.0	66605	50.00	UG/L		93
34)	CS05 Toluene d-8	15.55	98.0	67197	47.26	UG/L	95%	92
39)	CS10 Bromofluorobenzene	19.63	95.0	62818	51.41	UG/L	103%	99

* Compound is ISTD

252

CB

MS data file header from : >BC243::D4

Sample: 920045-09 CH#12 Operator: VOA2 REG. GRP. 2/03/92 20:40
Misc : ID#MS2 HALLIBURTON NUS E-S-08 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures : 35. 200. 0. 0. 0.
Chromatographic times, min. : 8.0 6.0 0.0 0.0 0.0
Chromatographic rate, deg/min: 10.0 0.0 0.0 .8 0.0

>BC243 920045-09 CH#12 ID#MS2 HALLIBURTON NUS E-S-08 LOW SOI

35.0| 260.0 TIC
Upslope: .2000 Area Reject: 2.00 % Max Peaks: 12 Bunch: -1 Valley >100 %
Dnslope: 0.0000 Results File VDIR87 Sorted by Time/Area INT

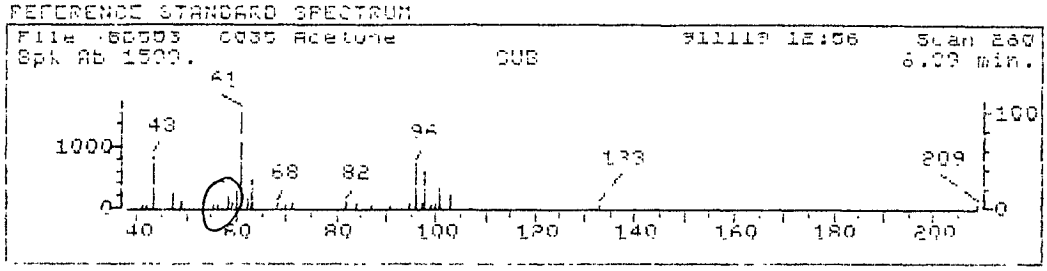
Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	2.66	79	85	103	7552	50869	48562	17.14	3.941
2	4.10	148	159	163	578	9222	5741	2.03	.466
3	6.02	250	257	283	1294	28255	23769	8.39	1.929
4	7.81	340	349	360	1613	16073	16073	5.67	1.304
5	11.02	506	513	547	9494	135384	132066	46.62	10.718
6	12.19	565	573	598	8667	102876	102876	36.32	8.349
7	13.05	611	617	639	42608	200935	197094	69.58	15.996
8	15.55	740	745	762	42824	187776	186203	65.73	15.112
9	17.84	857	862	878	53705	217286	217286	76.71	17.634
10	18.29	880	885	901	1587	11262	9207*	3.25	.747
11	19.63	946	954	964	71732	286104	283274	100.00	22.990
12	19.89	964	967	976	1896	13277	10019*	3.54	.813

Sum of corrected areas: 1232170.

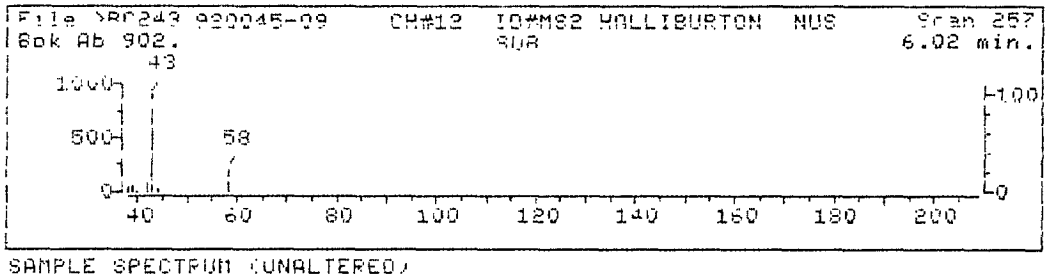
1

TIC

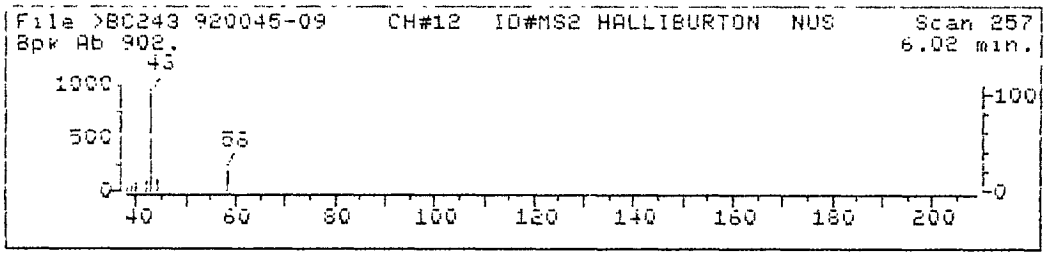
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >BC243::D4
Quant Output File: ^BC243::QT
Name: 920045-09 CH#12
Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-08 LOW SOIL 5.0G+Q1-33
Quant Time: 920203 21:11
Quant ID File: V2ID::D1
Injected at: 920203 20:40
Last Calibration: 910429 11:21
Last Qcal Time: 920203 16:58

Compound No : 7
Compound Name : C035 Acetone
Scan Number : 257
Retention Time: 6.02 min.
Quant Ion : 43.0
Area : 15743
Concentration : 61.78 UG/L
q-value : 75

CB

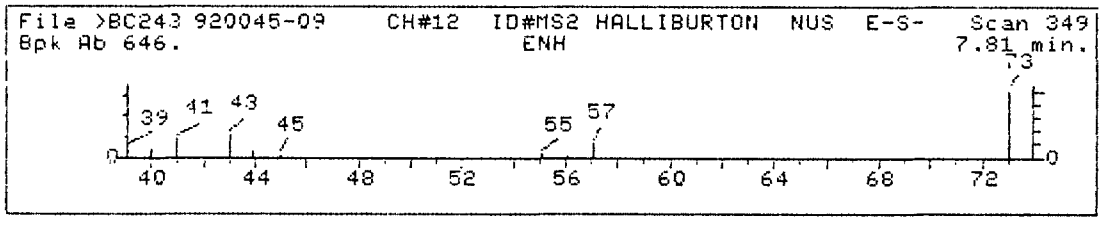
MS data file header from : >BC243::D4

Sample: 920045-09 CH#12 Operator: VOA2 REG. GRP. 2/03/92 20:40
Misc : ID#MS2 HALLIBURTON NUS E-S-08 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

Sample file: >BC243 Spectrum #: 349

No data base entries were retrieved.



CONC = (16073)(50) / (132066)(1) = 6ppb

unknown

GMC

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-S-09

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-10

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC244

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 13 Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	9	J

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-09

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-10

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC244

Level: (low/med) LOW Date Received: 02/01/92

% Moisture: not dec. 13 Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

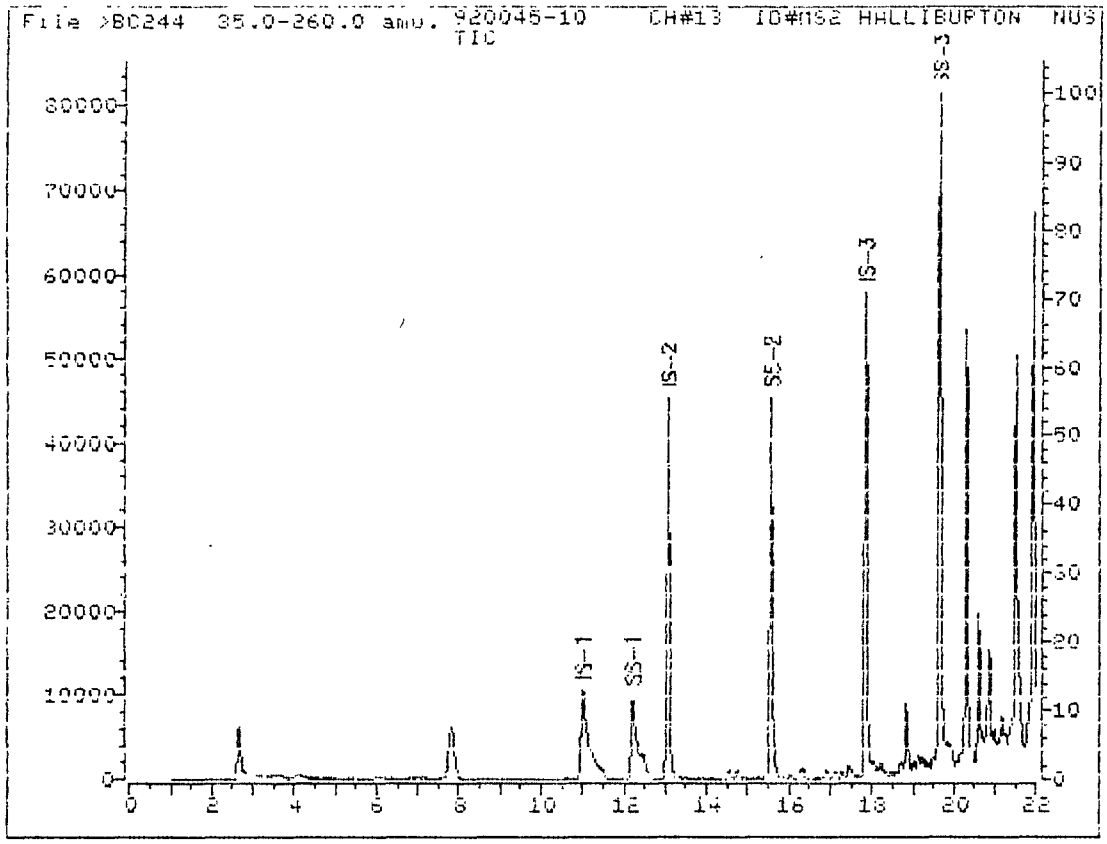
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	Unknown	7.82	25	J
2. 000000	C3-benzene isomer	20.29	56	J
3. 000000	C3-benzene isomer	20.60	21	J
4. 000000	C3-benzene isomer	20.85	11	J
5. 000000	C3-benzene isomer	21.50	60	J
6. 000000	C3-benzene isomer	21.93	62	J

257



MS data file header from : >BC244::D4

Sample: 920045-10 CH#13 Operator: VOA2 REG GRP. 2/03/92 21:16
Misc : ID#MS2 HALLIBURTON NUS E-S-09 LOW SOIL 5.0G#Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

Operator ID: VOA2 Quant Rev: 7 Quant Time: 920203 21:47
Output File: ^BC244::QT Injected at: 920203 21:16
Data File: >BC244::D4 Dilution Factor: 1.00000
Name: 920045-10 CH#13 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-09 LOW SOIL 5.0G+Q1-33

ID File: V2ID::D1
Title: VOLATILE ANALYSIS CLP-TCL DB624 75 Meters ID:MS2
Last Calibration: 910429 11:21 Last Qcal Time: 920203 16:58

	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*CI01 Bromochloromethane	11.00	128.0	20893M	50.00	UG/L		
13)	CS15 1,2-Dichloroethane-d4	12.19	65.0	41230	49.57	UG/L	99%	99
16)	*CI10 1,4-Difluorobenzene	13.05	114.0	85216	50.00	UG/L		100
28)	*CI20 Chlorobenzene-d5	17.84	117.0	69074	50.00	UG/L		94
34)	CS05 Toluene d-8	15.56	98.0	69533	47.15	UG/L	94%	92
38)	C250 Total Xylenes	18.84	106.0	4513M	7.65	UG/L		93
39)	CS10 Bromofluorobenzene	19.64	95.0	66926	52.82	UG/L	106%	90

* Compound is ISTD

259

CB

Sample: 920045-10 CH#13 Operator: VOA2 REG. GRP. 2/03/92 21:16
Misc : ID#MS2 HALLIBURTON NUS E-S-09 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures : 35. 200. 0. 0. 0.
Chromatographic times, min. : 8.0 6.0 0.0 0.0 0.0
Chromatographic rate, deg/min: 10.0 0.0 0.0 .8 0.0

>BC244 920045-10 CH#13 ID#MS2 HALLIBURTON NUS E-S-09 LOW SOI

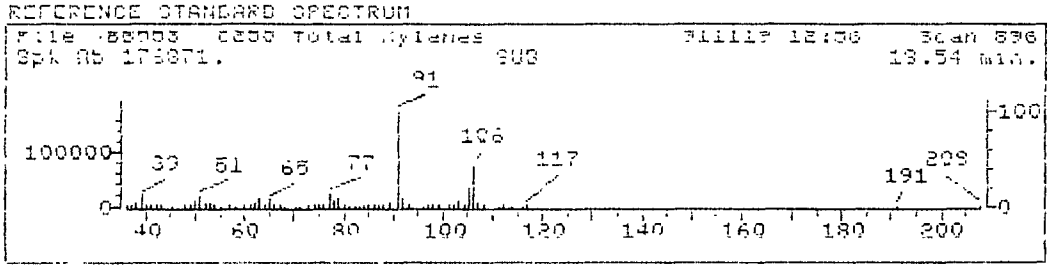
35.0| 260.0 TIC
Upslope: .2000 Area Reject: 2.00 % Max Peaks: 20 Bunch: -1 Valley >100 %
Dnslope: 0.0000 Results File VDIR87 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	2.66	80	85	95	5944	37544	34976	10.86	1.569
2	4.11	146	159	165	556	9619	6858	2.13	.308
3	7.82	335	349	366	6077	62773	60992	18.94	2.737
4	11.00	504	512	542	10520	144471	140148	43.52	6.288
5	12.19	567	573	601	9746	115118	110573	34.33	4.961
6	13.05	606	617	634	45213	208900	207028	64.29	9.289
7	15.56	734	745	765	45243	202333	198880	61.76	8.923
8	17.43	837	841	849	1274	12763	9773*	3.03	.438
9	17.84	856	862	870	57466	234418	228470	70.94	10.251
10	18.23	878	882	891	1448	16599	11627	3.61	.522
11	18.72	902	907	910	1477	14928	8463	2.63	.380
12	18.84	910	913	919	7751	41160	28431	8.83	1.276
13	19.15	924	929	931	1588	18859	7692	2.39	.345
14	19.64	948	954	965	79242	370845	322044	100.00	14.449
15	20.29	974	987	999	51834	275807	223287	69.33	10.018
16	20.60	999	1003	1010	17535	109256	82025	25.47	3.680
17	20.85	1011	1016	1020	10915	90089	43890*	13.63	1.969
18	21.17	1028	1032	1039	3501	72096	19889	6.18	.892
19	21.50	1039	1049	1061	46500	339497	235816	73.22	10.580
20	21.93	1061	1071	1072	63458	299818	247956	76.99	11.125

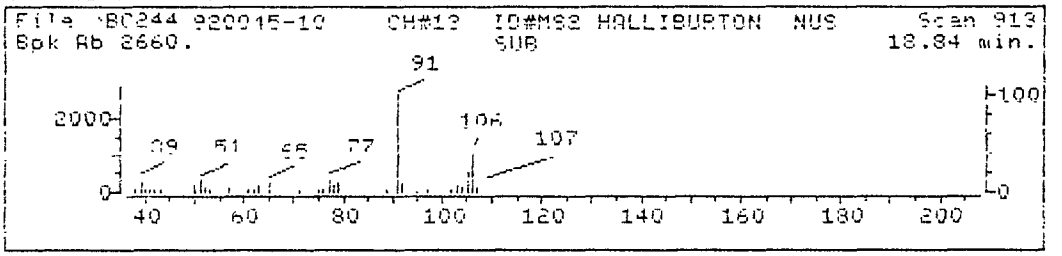
Sum of corrected areas: 2228818.

87/6 TIC

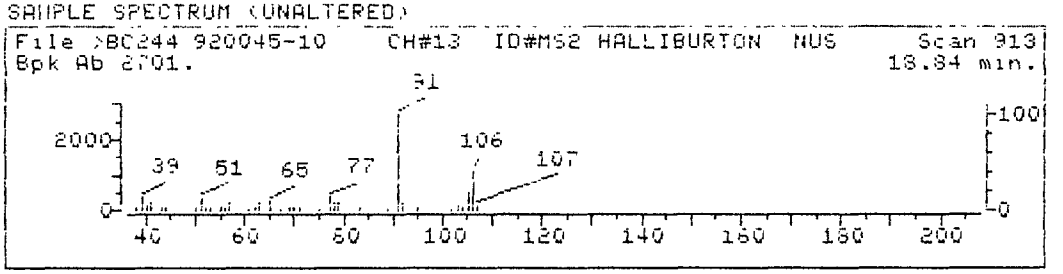
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >BC244::D4 Quant Output File: ^BC244::QT
Name: 920045-10 CH#13 Instrument ID: MS2
Misc: ID#MS2 HALLIBURTON NUS E-S-09 LOW SOIL 5.0G+Q1-33
Quant Time: 920203 21:47 Quant ID File: V2ID::D1
Injected at: 920203 21:16 Last Calibration: 910429 11:21
Last Qcal Time: 920203 16:58

Compound No : 38
Compound Name : C250 Total Xylenes
Scan Number : 913
Retention Time: 18.84 min.
Quant Ion : 106.0
Area : 4513M
Concentration : 7.65 UG/L
q-value : 93

CB

MS data file header from : >BC244::D4

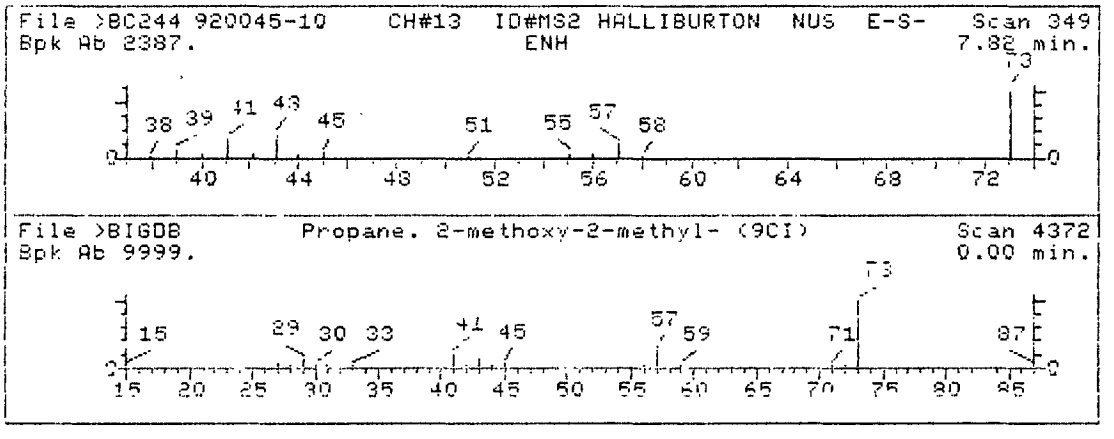
Sample: 920045-10 CH#13 Operator: VOA2 REG. GRP. 2/03/92 21:16
Misc : ID#MS2 HALLIBURTON NUS E-S-09 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Propane, 2-methoxy-2-methyl- (9CI) 88 C5H12O

Sample file: >BC244 Spectrum #: 349
Search speed: 2 Tilting option: S No. of ion ranges searched: 44

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	60	1634044	4372	"BIGDB	35	40	1	0	84	11	30	13



unknown

conc = $\frac{60992}{140148} \times 50$

= 22.

MS data file header from : >BC244::D4

Sample: 920045-10 CH#13 Operator: VOA2 REG. GRP. 2/03/92 21:16
Misc : ID#MS2 HALLIBURTON NUS E-S-09 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

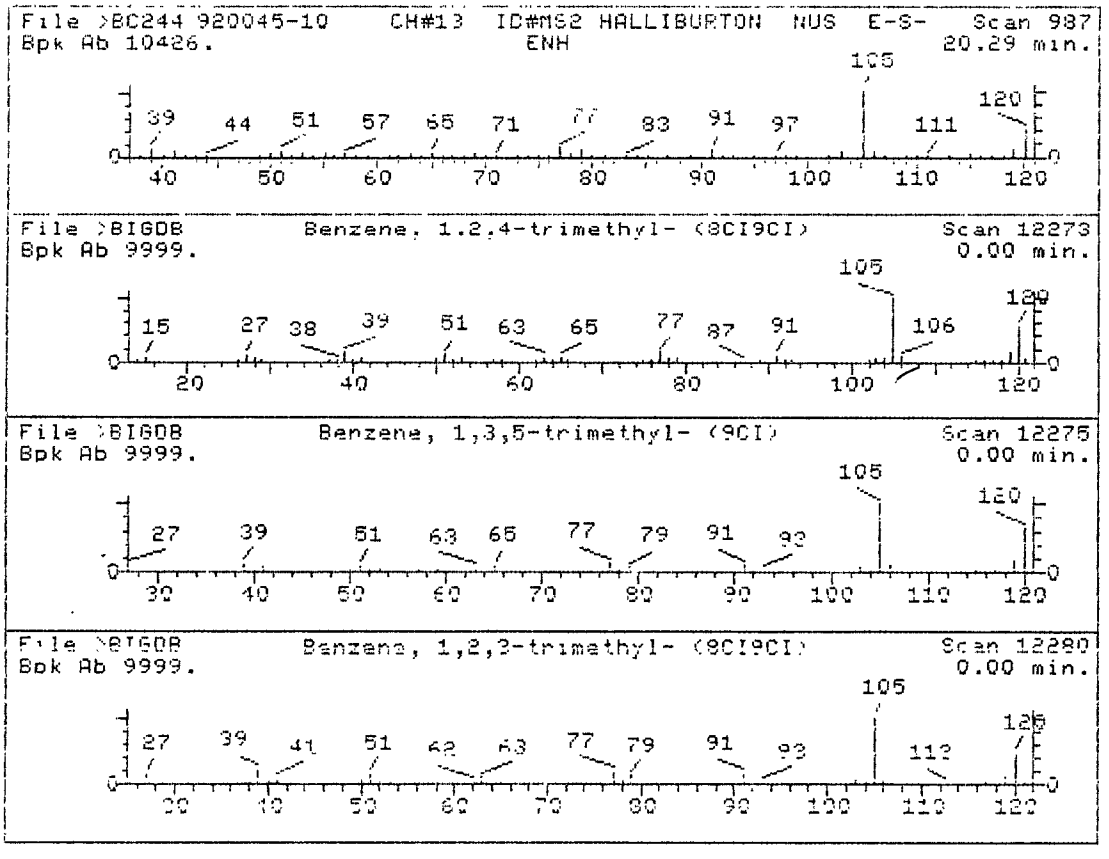
Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Benzene, 1,2,4-trimethyl- (8CI9CI) 120 C9H12
2. Benzene, 1,3,5-trimethyl- (9CI) 120 C9H12
3. Benzene, 1,2,3-trimethyl- (8CI9CI) 120 C9H12
4. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
5. Benzene, 1-ethyl-3-methyl- (9CI) 120 C9H12

Sample file: >BC244 Spectrum #: 987
Search speed: 2 Tilting option: S No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	95636	12273	"BIGDB	70	25	1	0	68	4	66	69
2.	88*	108678	12275	"BIGDB	73	15	2	3	75	4	65	57
3.	88*	526738	12280	"BIGDB	72	28	2	0	73	4	65	54
4.	83*	611143	12266	"BIGDB	65	20	2	0	96	9	54	55
5.	83*	620144	12267	"BIGDB	65	22	2	0	97	7	54	55

C3-benzene isomer



$$conc = \frac{223287}{228470} \times 50$$

$= 49$

unknown

263

JJ

MS data file header from : >BC244::D4

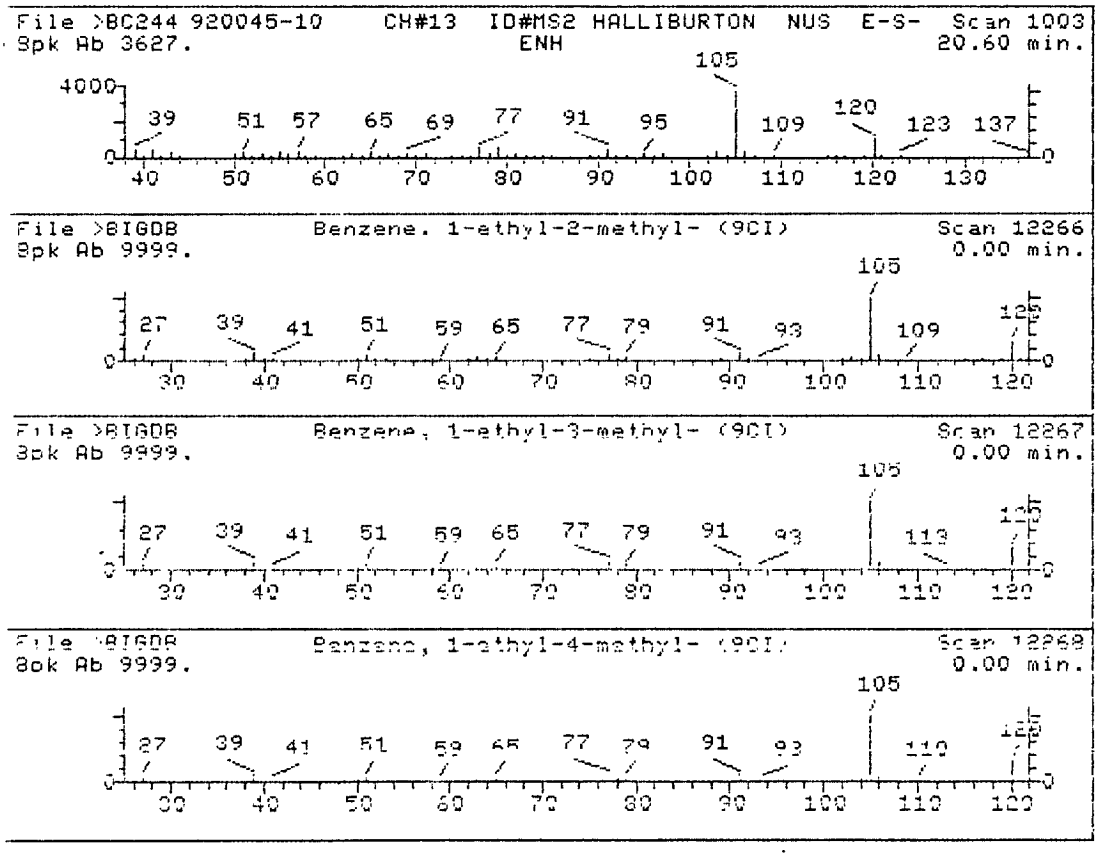
Sample: 920045-10 CH#13 Operator: VOA2 REG. GRP. 2/03/92 21:16
Misc : ID#MS2 HALLIBURTON NUS E-S-09 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
2. Benzene, 1-ethyl-3-methyl- (9CI) 120 C9H12
3. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12
4. Benzene, 1,1'-(1-methyl-1,2-ethanediyl)bis- (9CI) 196 C15H16
5. Benzene, 1,2,3-trimethyl- (8CI9CI) 120 C9H12

Sample file: >BC244 Spectrum #: 1003
Search speed: 2 Tilting option: S No. of ion ranges searched: 51

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	611143	12266	"BIGDB	67	18	1	0	74	5	66	77
2.	87*	620144	12267	"BIGDB	58	29	2	0	82	5	63	44
3.	84*	622968	12268	"BIGDB	67	18	1	2	70	9	55	69
4.	52	5814857	9857	"BIGDB	60	39	2	0	100	20	20	19
5.	43*	526738	12280	"BIGDB	55	45	2	0	55	38	17	32



C3-benzene isomer

conc = 82025 / 228470 x 50

= 18

ug/L

264

MS data file header from : >BC244::D4

Sample: 920045-10 CH#13 Operator: VOA2 REG. GRP. 2/03/92 21:16
Misc : ID#MS2 HALLIBURTON NUS E-S-09 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

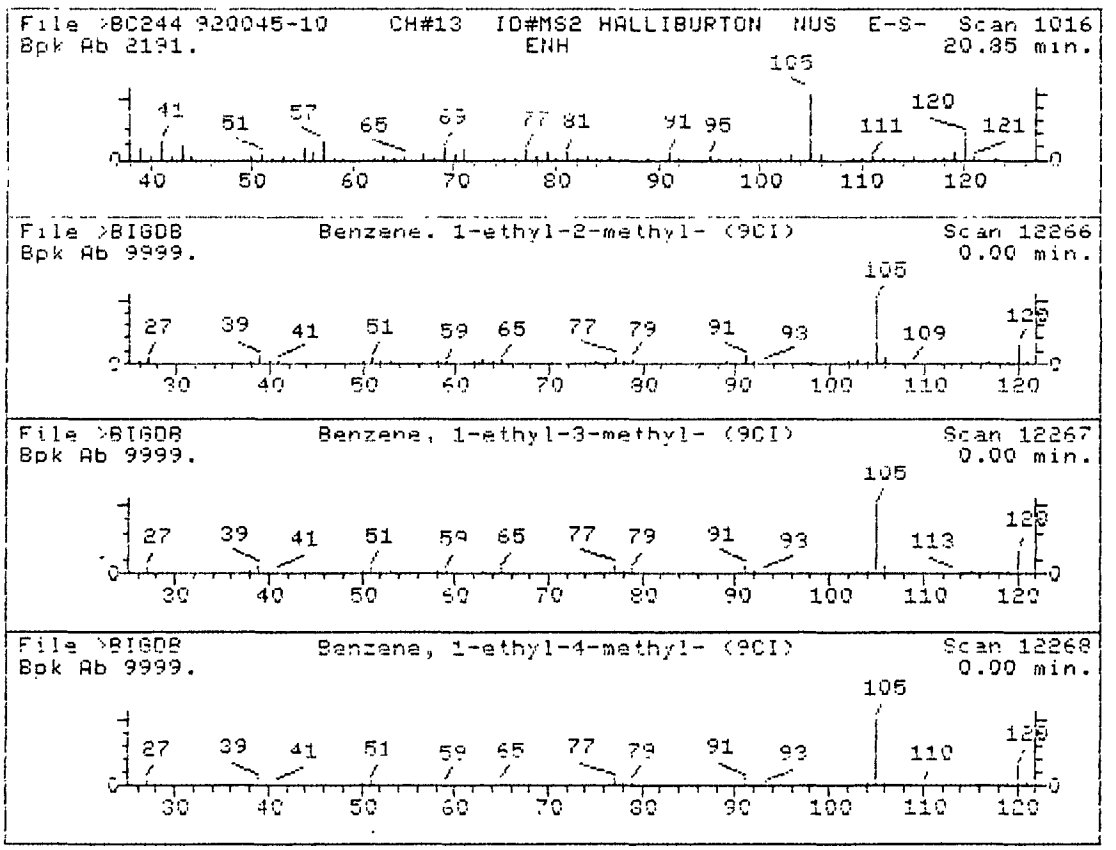
Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
2. Benzene, 1-ethyl-3-methyl- (9CI) 120 C9H12
3. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12
4. Benzene, 1,2,3-trimethyl- (8CI9CI) 120 C9H12
5. Benzene, 1,3,5-trimethyl- (9CI) 120 C9H12

Sample file: >BC244 Spectrum #: 1016
Search speed: 2 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	79*	611143	12266	"BIGDB	60	25	1	0	100	15	43	63
2.	79*	620144	12267	"BIGDB	60	27	1	0	100	14	43	60
3.	76*	622968	12268	"BIGDB	60	25	1	1	100	15	40	59
4.	74*	526738	12280	"BIGDB	67	33	2	0	76	11	39	46
5.	55*	108678	12275	"BIGDB	54	34	1	0	63	36	19	46

C3-benzene isomer



$$\text{conc} = \frac{43890 \times 50}{228470} = 10.$$

MS data file header from : >BC244::D4

Sample: 920045-10 CH#13 Operator: VOA2 REG. GRP. 2/03/92 21:16
Misc : ID#MS2 HALLIBURTON NUS E-S-09 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

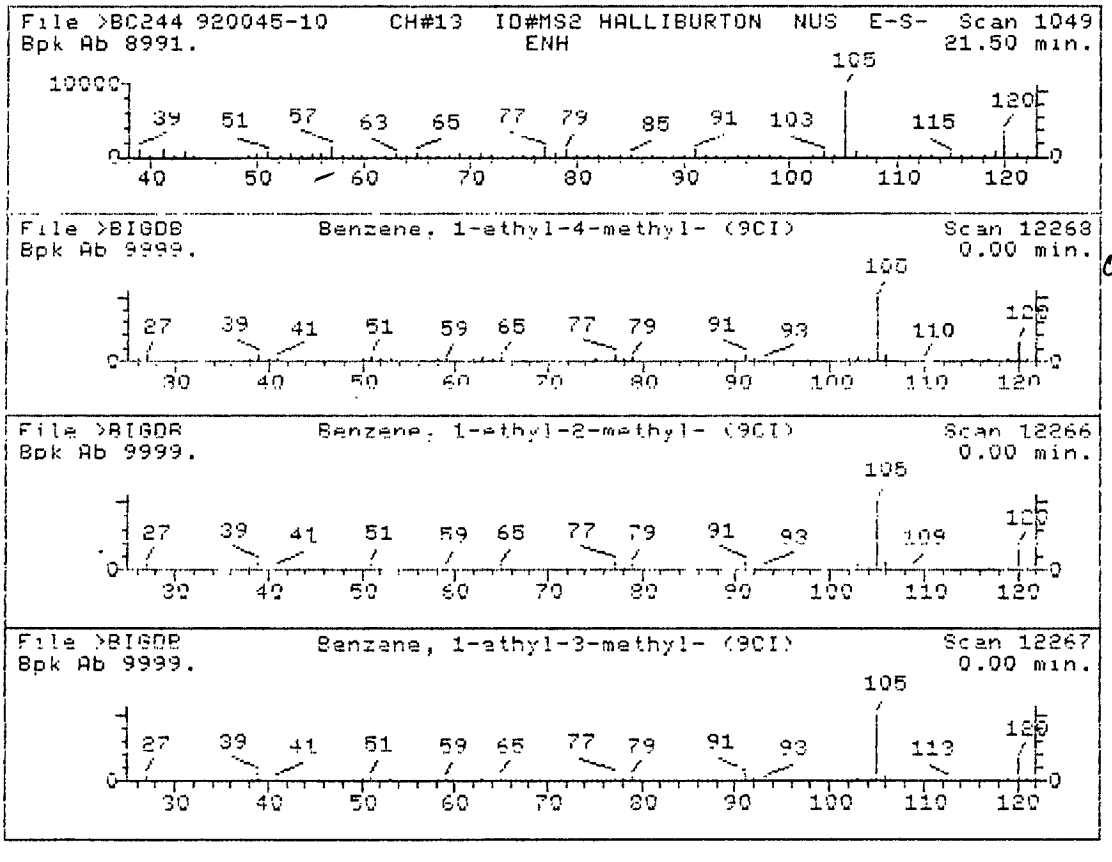
Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12
2. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
3. Benzene, 1-ethyl-3-methyl- (9CI) 120 C9H12
4. Benzene, 1,2,3-trimethyl- (8CI9CI) 120 C9H12
5. Benzene, 1,2,4-trimethyl- (8CI9CI) 120 C9H12

Sample file: >BC244 Spectrum #: 1049
Search speed: 2 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	79*	622968	12268	"BIGDB	53	32	0	0	67	13	43	65
2.	76*	611143	12266	"BIGDB	65	20	2	0	93	11	40	55
3.	76*	620144	12267	"BIGDB	59	28	1	0	70	11	40	59
4.	67*	526738	12280	"BIGDB	57	28	0	0	45	38	28	71
5.	58*	95636	12273	"BIGDB	64	31	1	0	52	42	18	63

C_3-benzene isomer



conc = $\frac{235816}{228470} \times 50$

= 52.

266

MS data file header from : >BC244::D4

Sample: 920045-10 CH#13 Operator: VOA2 REG. GRP. 2/03/92 21:16
Misc : ID#MS2 HALLIBURTON NUS E-S-09 LOW SOIL 5.0G+Q1-33
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

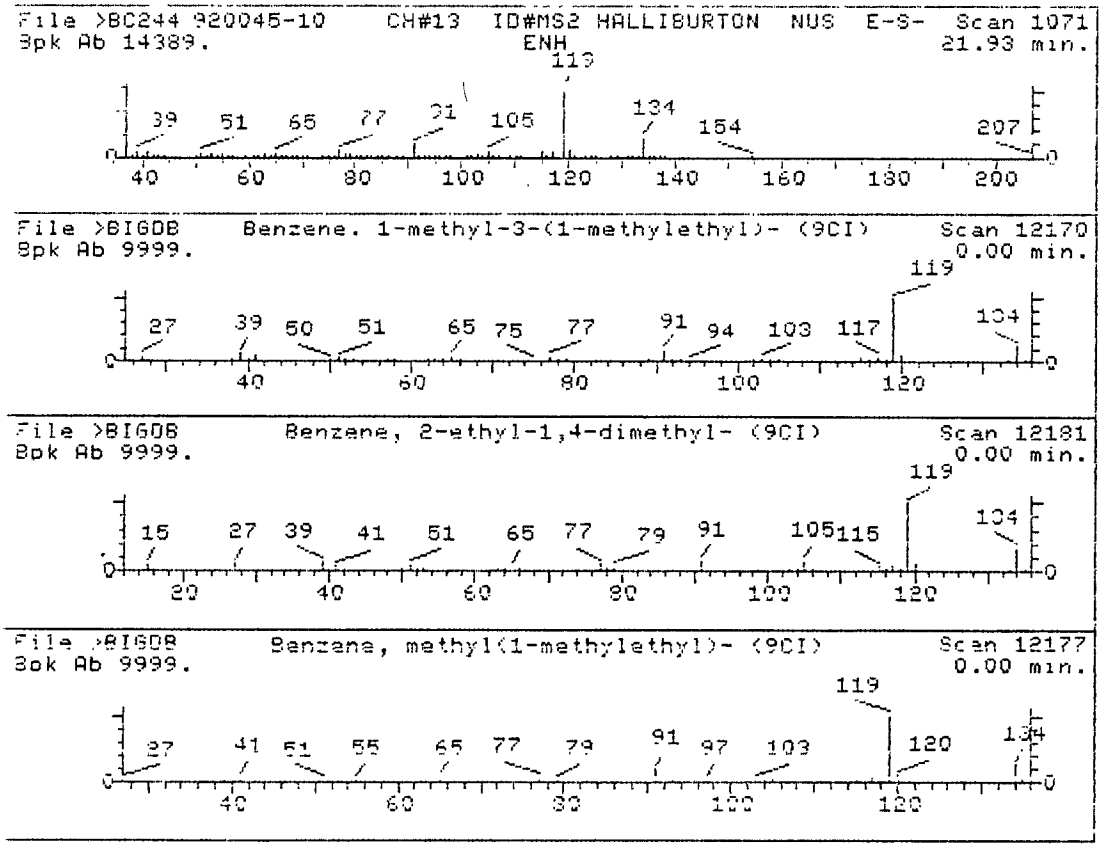
Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

1. Benzene, 1-methyl-3-(1-methylethyl)- (9CI) 134 C10H14
2. Benzene, 2-ethyl-1,4-dimethyl- (9CI) 134 C10H14
3. Benzene, methyl(1-methylethyl)- (9CI) 134 C10H14
4. Benzene, 1-ethyl-2,3-dimethyl- (9CI) 134 C10H14
5. Benzene, 1-ethyl-3,5-dimethyl- (9CI) 134 C10H14

Sample file: >BC244 Spectrum #: 1071
Search speed: 2 Tilting option: S No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	95*	535773	12170	"BIGDB	78	11	1	0	83	8	68	94
2.	94*	1758889	12181	"BIGDB	80	14	1	0	67	3	72	92
3.	89*	25155151	12177	"BIGDB	73	17	1	0	82	10	62	80
4.	89*	933982	12172	"BIGDB	73	18	1	0	82	3	66	77
5.	89*	934747	12180	"BIGDB	75	20	1	1	76	3	66	69

C4-benzene isomer



$$\text{conc} = \frac{24\,7954}{228\,470} \times 50$$

$= 54$

267

Hutchinson

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E-S-12

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-11

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C9271

Level: (low/med) MED Date Received: 02/01/92

% Moisture: not dec. 5 Date Analyzed: 02/06/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 25.0(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	5300	U
74-83-9	Bromomethane	5300	U
75-01-4	Vinyl Chloride	5300	U
75-00-3	Chloroethane	5300	U
75-09-2	Methylene Chloride	2500	J
67-64-1	Acetone	5300	U
75-15-0	Carbon Disulfide	5300	U
75-35-4	1,1-Dichloroethene	5300	U
75-34-3	1,1-Dichloroethane	5300	U
540-59-0	1,2-Dichloroethene (total)	5300	U
67-66-3	Chloroform	5300	U
107-06-2	1,2-Dichloroethane	5300	U
78-93-3	2-Butanone	5300	U
71-55-6	1,1,1-Trichloroethane	14000	
56-23-5	Carbon Tetrachloride	5300	U
75-27-4	Bromodichloromethane	5300	U
78-87-5	1,2-Dichloropropane	5300	U
10061-01-5	cis-1,3-Dichloropropene	5300	U
79-01-6	Trichloroethene	5300	U
124-48-1	Dibromochloromethane	5300	U
79-00-5	1,1,2-Trichloroethane	5300	U
71-43-2	Benzene	5300	U
10061-02-6	trans-1,3-Dichloropropene	5300	U
75-25-2	Bromoform	5300	U
108-10-1	4-Methyl-2-Pentanone	5300	U
591-78-6	2-Hexanone	5300	U
127-18-4	Tetrachloroethene	5300	U
79-34-5	1,1,2,2-Tetrachloroethane	5300	U
108-88-3	Toluene	960	J
108-90-7	Chlorobenzene	5300	U
100-41-4	Ethylbenzene	5300	U
100-42-5	Styrene	5300	U
1330-20-7	Xylene (total)	150000	E

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E-S-12

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: 920045-11

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C9271

Level: (low/med) MED Date Received: 02/01/92

% Moisture: not dec. 5 Date Analyzed: 02/06/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

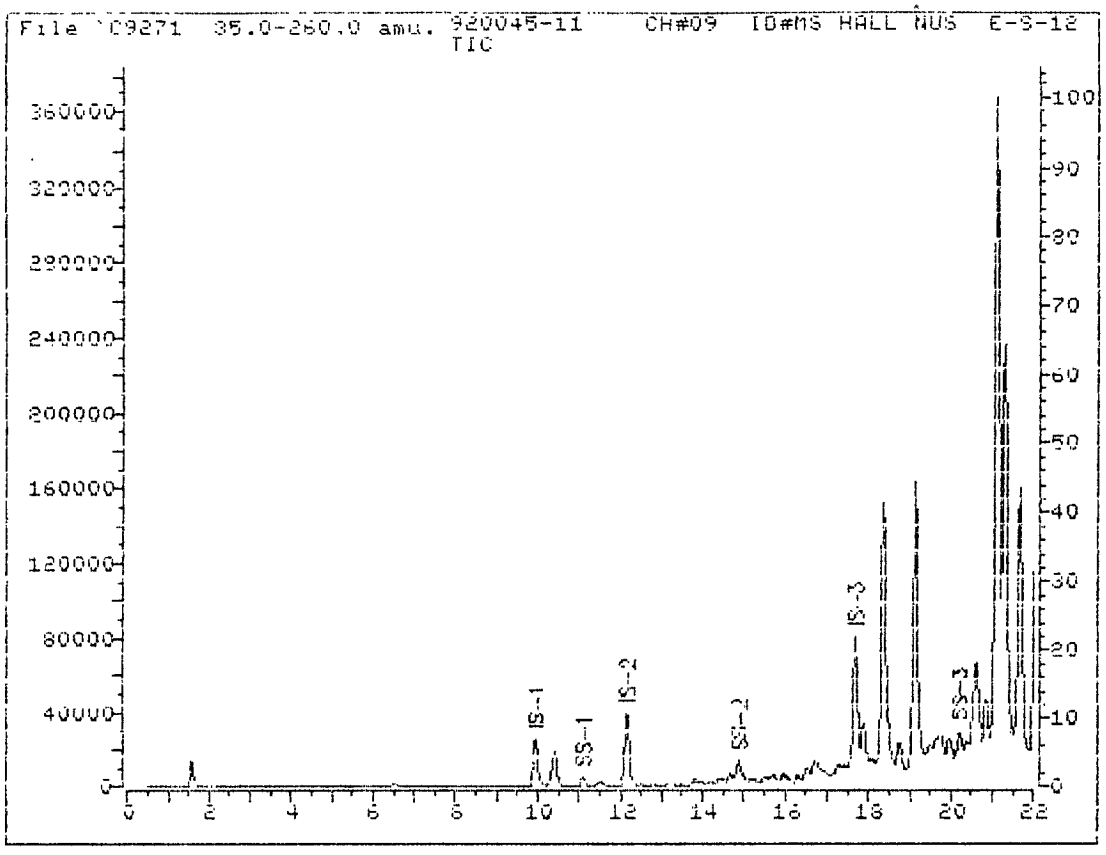
Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 25.0(uL)

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000	Unknown	15.96	5300	J
2. 000000	Unknown	16.74	7400	J
3. 000000	Unknown	17.87	6300	J
4. 000000	Unknown	18.74	5800	J
5. 000000	Unknown	19.97	3700	J
6. 000000	Unknown	20.62	22000	J
7. 000000	Aliphatic hydrocarbon	20.85	9500	J
8. 000000	C3-benzene isomer	21.11	140000	J
9. 000000	C3-benzene isomer	21.30	81000	J
10. 000000	Unknown	21.65	55000	J

269



MS data file header from : >C9271::D5

Sample: 920045-11 CH#09 Operator: VOA1 REG. GRP. 2/06/92 0:30
Misc : ID#MS HALL NUS E-S-12 MED SOIL 4G/10MLX 25UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

Operator ID: VGHI Quant Seq: 2 Quant Time: 920206 01:03
Output File: L9271::QT Injected at: 920206 00:30
Data File: L9271::DD Dilution Factor: 1.00000
Name: 920045-11 CH#09 Instrument ID: M55
Misc: ID#MS HALL NO5 E-5-12 MED SOIL 4G/10MLX 25UL+IS LH

ID File: V5ID::SC
Title: VOLATILE ANALYSIS CLP-TCL DB624 30Mx0.53IDx3uM ID#MS3
Last Calibration: 910429 11:21 Last Qcal Time: 920205 21:45

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	9.94	128.0	34070	50.00	UG/L	82
6)	C030 Methylene Chloride	6.54	84.0	4328	4.67	UG/L	69
13)	CS15 1,2-Dichloroethane-d4	11.09	65.0	13713	12.86	UG/L 103%	99
16)	*C110 1,4-Difluorobenzene	12.15	114.0	128273	50.00	UG/L	100
17)	C115 1,1,1-Trichloroethane	10.41	97.0	48760	25.68	UG/L	81
~~18)~~	~~C120 Carbon Tetrachloride~~ Not	~~10.41~~	~~117.0~~	~~6551~~	~~3.24~~	~~UG/L~~	81
22)	C150 Trichloroethene	12.50	130.0	1302	.866	UG/L	92
28)	*CI20 Chlorobenzene-d5	17.68	117.0	118370	50.00	UG/L	98
31)	C220 Tetrachloroethene	16.04	164.0	1255	.674	UG/L	95
33)	C230 Toluene	15.00	91.0	5067	1.82	UG/L	97
34)	CS05 Toluene d-8	14.88	98.0	29760	11.92	UG/L 95%	94
35)	C255 Chlorobenzene	17.66	112.0	1456	.532	UG/L	76
38)	C250 Total Xylenes	19.15	106.0	358270M	278.59	UG/L	96
39)	CS10 Bromofluorobenzene	20.20	95.0	22962	12.15	UG/L 97%	86

* Compound is ISTD

CB

MS data file header from : >C9271::D5

Sample: 920045-11 CH#09 Operator: VOA1 REG. GRP. 2/06/92 0:30
Misc : ID#MS HALL NUS E-S-12 MED SOIL 4G/10MLX 25UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

>C9271 920045-11 CH#09 ID#MS HALL NUS E-S-12 MED SOIL 4G/1

35.0| 260.0 TIC
Upslope: .2000 Area Reject: 2.00 % Max Peaks: 19 Bunch: -1 Valley >100 %
Dnslope: 0.0000 Results File VDIR87 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	1.57	49	56	78	14786	78421	76282	2.80	.759
2	9.94	476	485	500	25159	202022	199237	7.32	1.982
3	10.41	500	509	522	18514	157301	154103*	5.66	1.533
4	12.15	588	598	613	39500	295802	291874	10.73	2.904
5	14.88	732	738	748	11526	146351	103633	3.81	1.031
6	15.96	787	793	804	5249	87138	59349	2.18	.590
7	16.74	827	833	842	9353	205381	79598	2.93	.792
8	17.68	873	881	887	69810	681804	507647	18.66	5.050
9	17.87	888	891	898	19563	282152	124608*	4.58	1.240
10	18.36	908	916	930	140582	1369063	1051535	38.65	10.461
11	18.74	930	935	944	14630	266473	115960	4.26	1.154
12	19.15	945	956	968	153954	1449357	1194060	43.89	11.878
13	19.97	994	998	1004	10135	251595	66972	2.46	.666
14	20.20	1005	1010	1016	14442	309195	104094	3.83	1.036
15	20.62	1023	1031	1038	45041	794530	413018	15.18	4.109
16	20.85	1038	1043	1048	26726	425597	183543	6.75	1.826
17	21.11	1048	1056	1062	348005	3058216	2720350	100.00	27.062
18	21.30	1062	1066	1077	216493	1915156	1555599	57.18	15.475
19	21.65	1077	1084	1097	140703	1518895	1050949	38.63	10.455

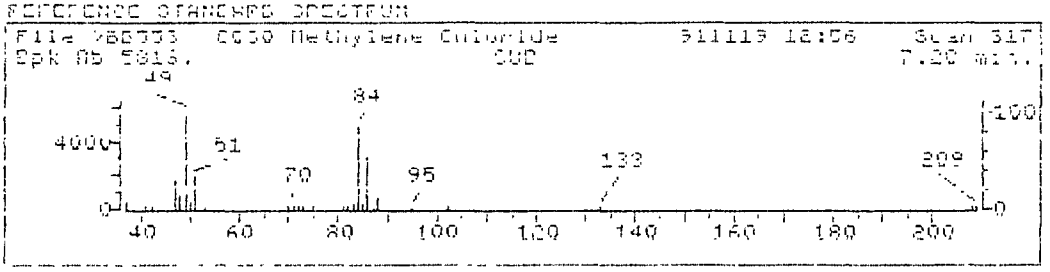
Sum of corrected areas: 10052412.

11
10

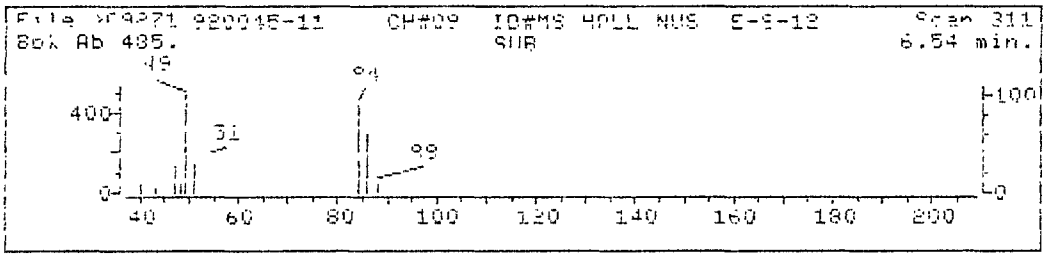
TIC

JM

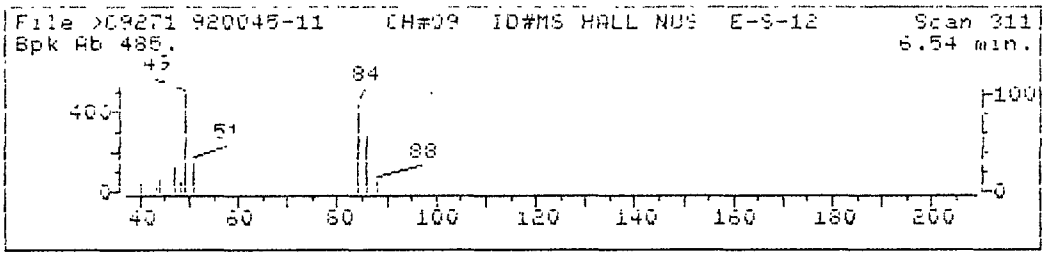
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



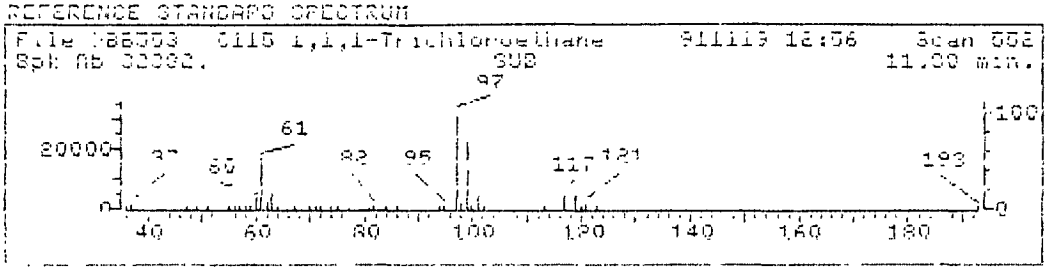
Data File: >C92/1::05 Quant Output File: ^C92/1::QT
Name: 920045-11 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-12 MED SOIL 4G/10MLX 25UL+IS LH
Quant Time: 920206 01:03 Quant ID File: V5ID::SC
Injected at: 920206 00:30 Last Calibration: 910429 11:21
Last Qcal Time: 920205 21:45

Compound No : 6
Compound Name : C030 Methylene Chloride
Scan Number : 311
Retention Time: 6.54 min.
Quant Ion : 84.0
Area : 4328
Concentration : 4.67 UG/L
q-value : 69

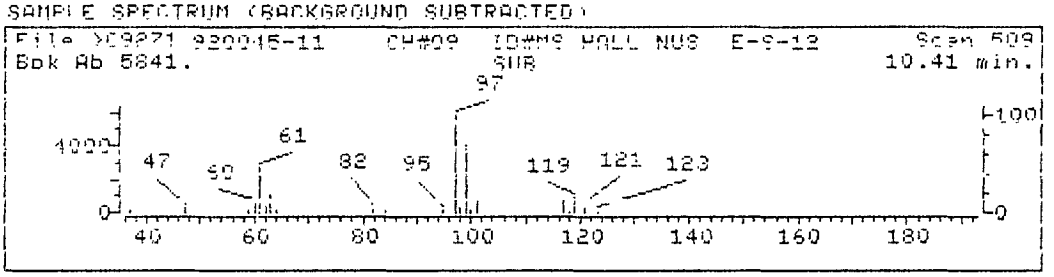
273

CB

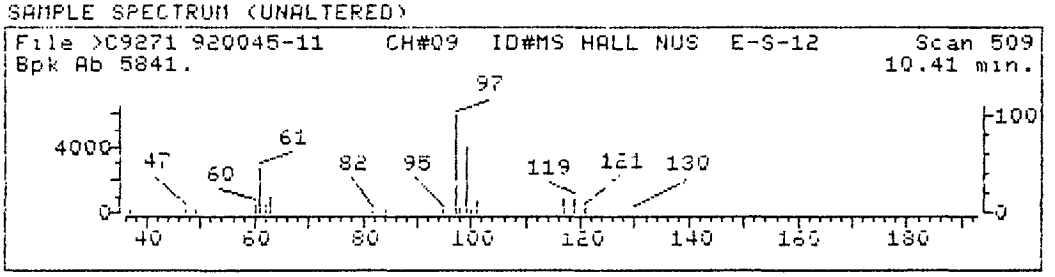
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

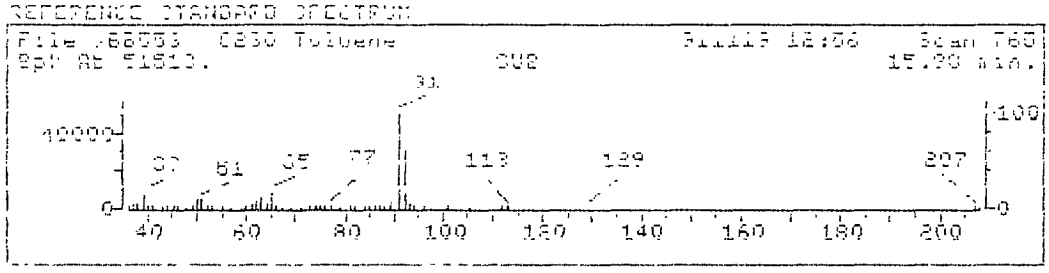


Data File: >C9271::D5 Quant Output File: ^C9271::QT
Name: 920045-11 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-12 MED SOIL 4G/10MLX 25UL+IS LH
Quant Time: 920206 01:05 Quant ID File: V5TD::SC
Injected at: 920206 00:30 Last Calibration: 910429 11:21
Last Qcal Time: 920205 21:45

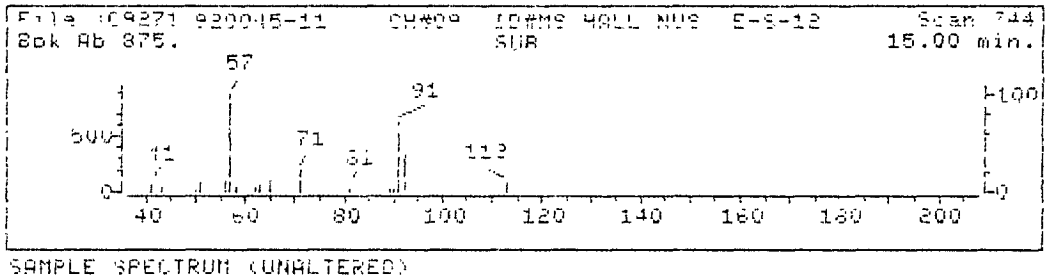
Compound No : 17
Compound Name : C115 1,1,1-trichloroethane
Scan Number : 509
Retention Time: 10.41 min.
Quant Ion : 97.0
Area : 48760
Concentration : 25.68 UG/L
q-value : 81

CB

REFERENCE STANDARD SPECTRUM



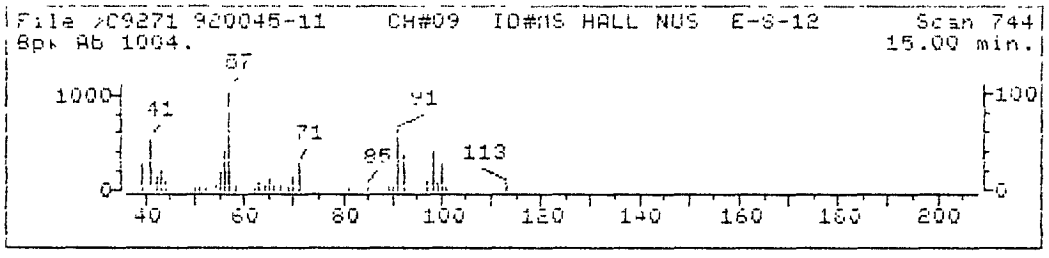
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



m/z 57, 71 from background

off C

SAMPLE SPECTRUM (UNALTERED)

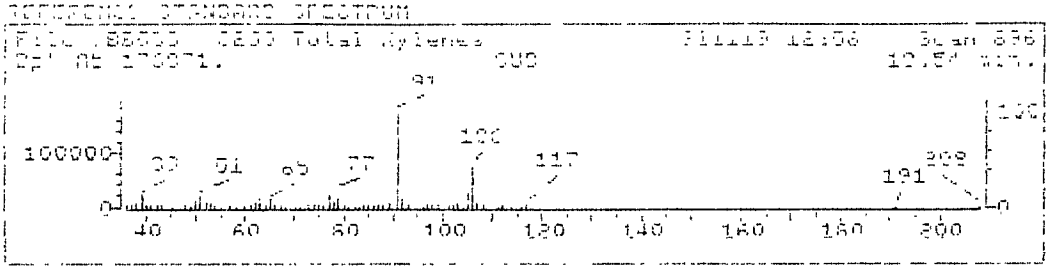


Data File: >C9271::D5 Quant Output File: >C9271::QT
Name: 920045-11 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-12 MED SOIL 4G/10MLX 25UL+IS 1H
Quant Time: 920206 01:03 Quant TD File: V3ID::SC
Injected at: 920206 00:30 Last Calibration: 910429 11:21
Last Qcal Time: 920205 21:45

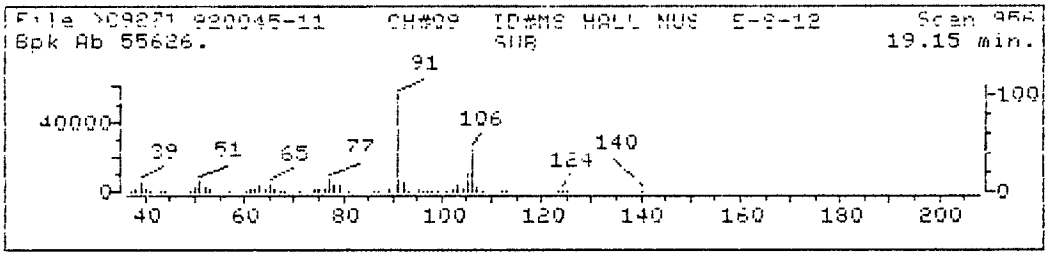
Compound No : 13
Compound Name : C230 Toluene
Scan Number : 744
Retention Time: 15.00 min.
Quant Ion : 91.0
Area : 5067
Concentration : 1.82 UG/L
q value : 97

CB

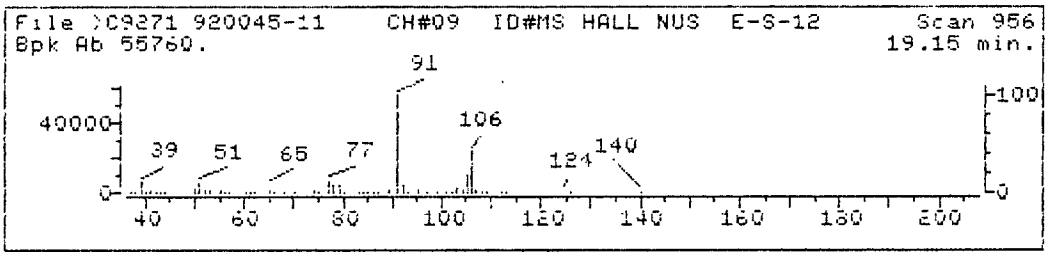
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >C9271::D5 Quant Output File: ^C9271::QT
Name: 920045-11 CH#09 Instrument ID: MS3
Misc: ID#MS HALL NUS E-S-12 MED SOIL 4G/10MLX 250UL+IS 1.0
Quant Time: 920206 01:03 Quant ID File: V5ID::SC
Injected at: 920206 00:30 Last Calibration: 910429 11:21
Last Qcal Time: 920205 21:45

Compound No : 58
Compound Name : C250 Total Xylenes
Scan Number : 956
Retention Time: 19.15 min.
Quant Ion : 106.0
Area : 558270M
Concentration : 273.59 UG/L
q value : 96

CB

MS data file header from : >C9271::D5

Sample: 920045-11 CH#09 Operator: VOA1 REG. GRP. 2/06/92 0:30
Misc : ID#MS HALL NUS E-S-12 MED SOIL 4G/10MLX 250L+1S LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

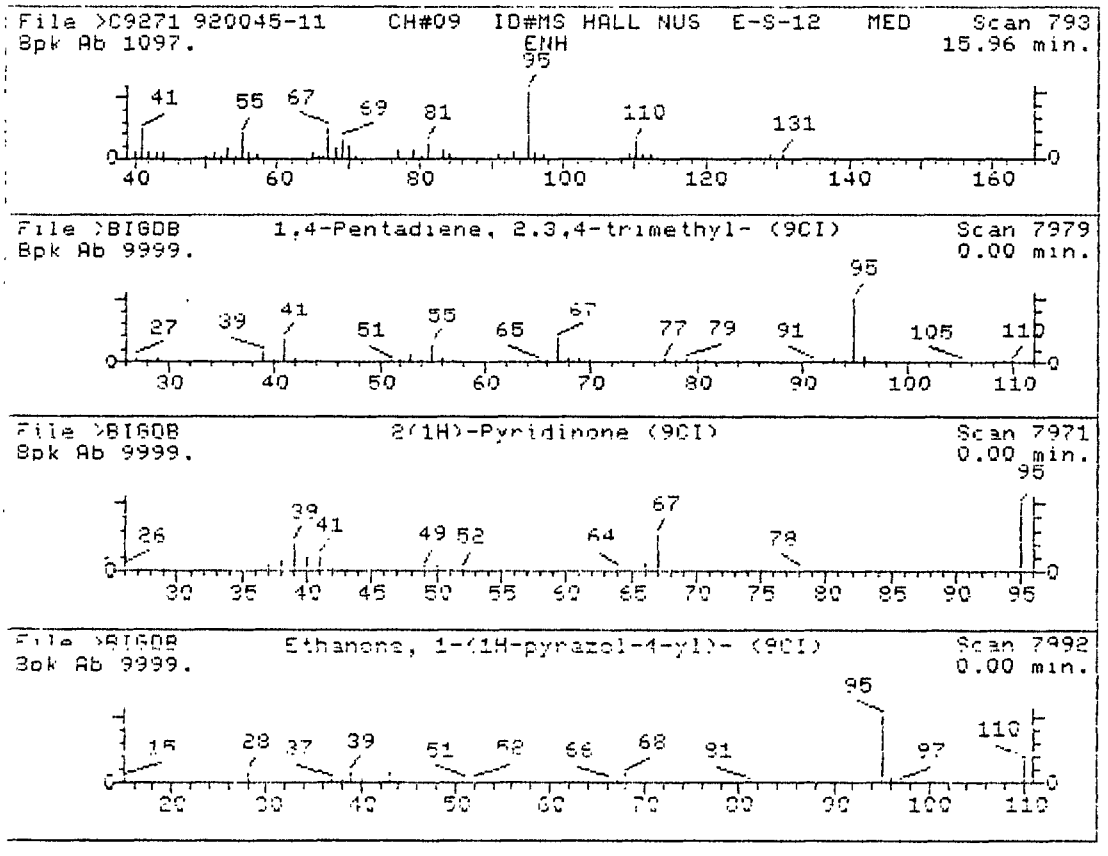
Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. 1,4-Pentadiene, 2,3,4-trimethyl- (9CI) 110 C8H14
2. 2(1H)-Pyridinone (9CI) 95 C5H5NO
3. Ethanone, 1-(1H-pyrazol-4-yl)- (9CI) 110 C5H6N2O
4. Cyclopropane, 1-(1,1-dimethylethyl)-2-methylene- (9C 110 C8H14
5. 1,4-Pentadiene, 2,3,3-trimethyl- (8CI9CI) 110 C8H14

Sample file: >C9271 Spectrum #: 793
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	67*	72014905	7979	"BIGDB	44	40	0	0	94	27	27	55
2.	41*	142085	7971	"BIGDB	36	55	2	0	77	28	14	18
3.	32*	25016164	7992	"BIGDB	27	54	1	0	69	35	12	15
4.	31*	61142254	7977	"BIGDB	45	53	2	0	44	44	8	19
5.	31*	756025	7988	"BIGDB	47	62	2	0	59	44	8	19

Unknown



$$cmc = \frac{59349}{291874} \times 50$$

$= 10$

277

MS data file header from : >C9271::D5

Sample: 920045-11 CH#09 Operator: VOA1 REG. GRP. 2/06/92 0:30
Misc : ID#MS HALL NUS E-S-12 MED SOIL 4G/10MLX 25UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

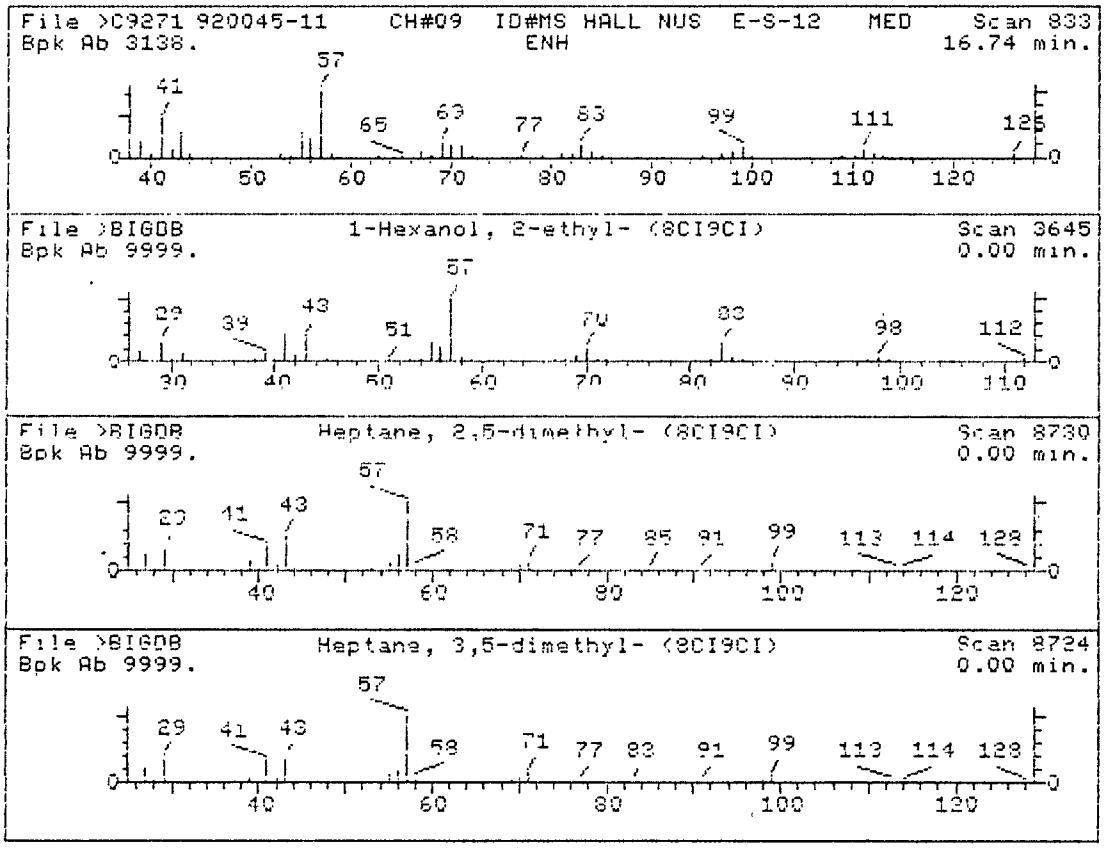
Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. 1-Hexanol, 2-ethyl- (8CI9CI) 130 C8H18O
2. Heptane, 2,5-dimethyl- (8CI9CI) 128 C9H20
3. Heptane, 3,5-dimethyl- (8CI9CI) 128 C9H20
4. Octane, 3-methyl- (8CI9CI) 128 C9H20
5. Hexane, 4-ethyl-2-methyl- (8CI9CI) 128 C9H20

Sample file: >C9271 Spectrum #: 833
Search speed: 2 Tilting option: S No. of ion ranges searched: 55

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	57	104767	3645	"BIGDB	50	44	0	0	72	21	22	29
2.	49*	2216300	8730	"BIGDB	34	52	0	0	73	34	20	33
3.	46*	926829	8724	"BIGDB	33	49	0	0	100	34	20	30
4.	43*	2216333	8731	"BIGDB	38	46	1	0	100	28	19	21
5.	41*	3074757	8735	"BIGDB	37	52	2	0	100	30	14	18

Unknown



$$conc = \frac{79598}{291874} \times 50$$

$\doteq 14$

278

MS data file header from : >C9271::D5

Sample: 920045-11 CH#09 Operator: VOAI REG. GRP. 2/06/92 0:30
Misc : ID#MS HALL NUS E-S-12 MED SOIL 4G/10MLX 25UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

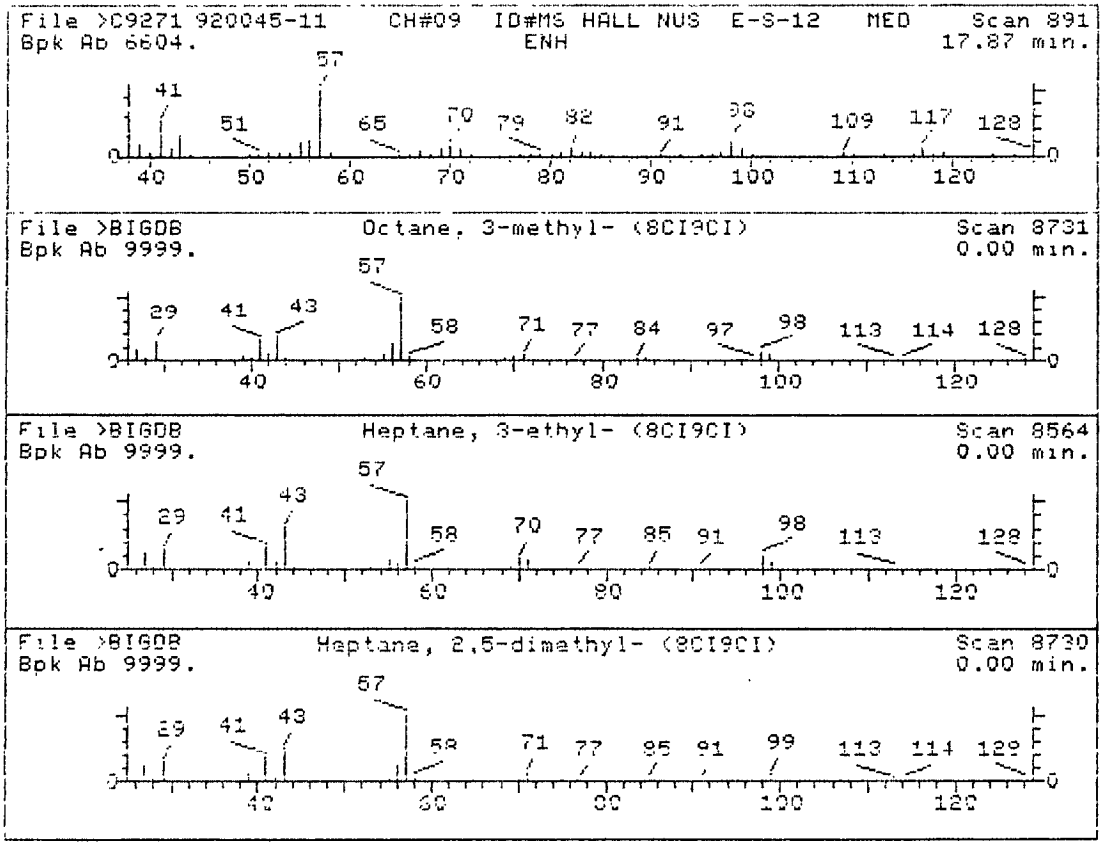
Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Octane, 3-methyl- (8CI9CI) 128 C9H20
2. Heptane, 3-ethyl- (8CI9CI) 128 C9H20
3. Heptane, 2,5-dimethyl- (8CI9CI) 128 C9H20
4. Heptane, 4-(1-methylethyl)- (9CI) 142 C10H22
5. Heptane, 2-bromo- (8CI9CI) 178 C7H15Br

Sample file: >C9271 Spectrum #: 891
Search speed: 2 Tilting option: S No. of ion ranges searched: 58

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	68*	2216333	8731	"BIGDB	46	38	0	0	100	23	30	57
2.	59*	15869804	8564	"BIGDB	49	39	1	0	77	23	27	37
3.	47*	2216300	8730	"BIGDB	43	43	1	0	100	26	19	25
4.	43	52896874	8582	"BIGDB	41	42	1	0	79	25	17	14
5.	41	1974045	1201	"BIGDB	49	35	0	0	83	37	14	28

Unknown



Conc = $\frac{124408}{507647} \times 10$

= 12

MS data file header from : >C9271::D5

Sample: 920045-11 CH#09 Operator: VOA1 REG. GRP. 2/06/92 0:30
Misc : ID#MS HALL NUS E-S-12 MED SOIL 4G/10MLX 25UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

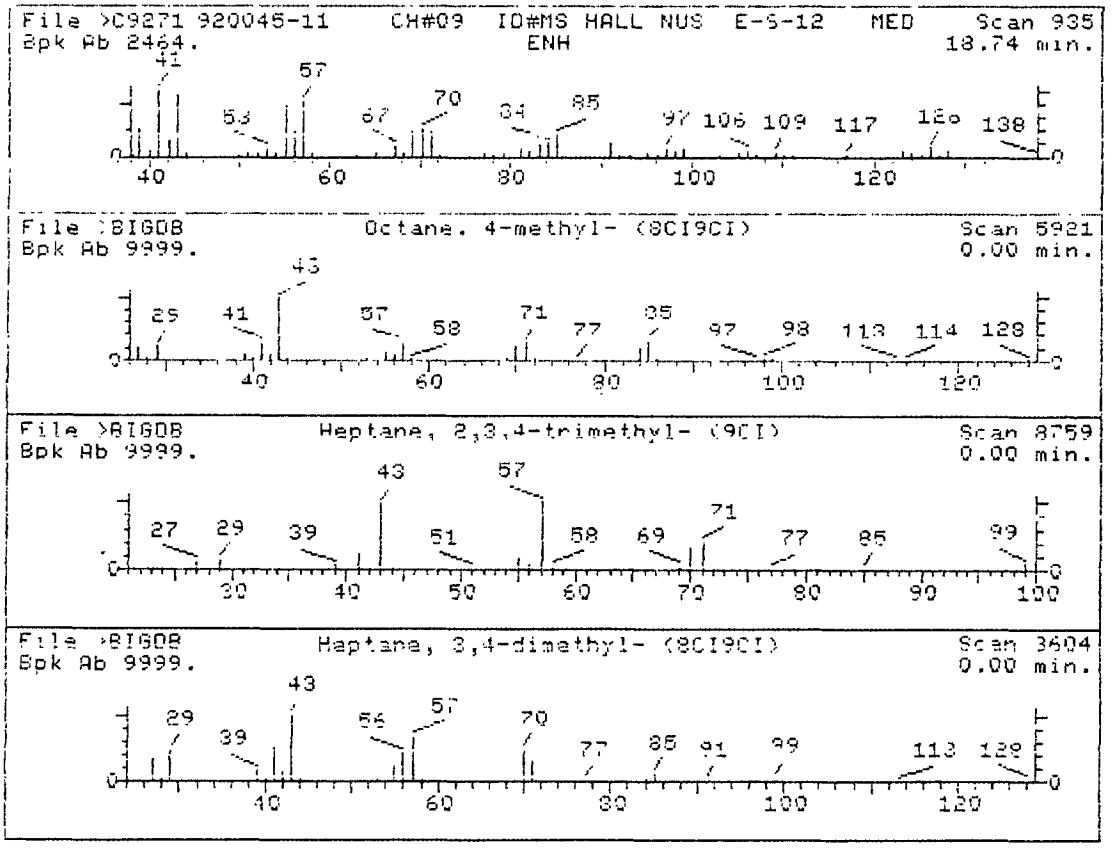
Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Octane, 4-methyl- (8CI9CI) 128 C9H20
2. Heptane, 2,3,4-trimethyl- (9CI) 142 C10H22
3. Heptane, 3,4-dimethyl- (8CI9CI) 128 C9H20
4. 1-Nonene (8CI9CI) 126 C9H18
5. Pentane, 2,3,3-trimethyl- (8CI9CI) 114 C8H18

Sample file: >C9271 Spectrum #: 935
Search speed: 2 Tilting option: S No. of ion ranges searched: 50

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	44*	2216344	5921	"BIGDB	34	57	0	0	92	36	17	33
2.	42	52896954	8759	"BIGDB	52	38	0	0	83	39	17	31
3.	40*	922281	3604	"BIGDB	40	57	0	0	85	48	12	41
4.	39*	124118	1101	"BIGDB	56	52	2	-2	63	29	14	16
5.	31	560214	5990	"BIGDB	31	57	0	0	84	38	10	17

Unknown



$$\text{conc} = \frac{115960}{507647} \times 50$$

$= 11.$

280

MS data file header from : >C9271::D5

Sample: 920045-11 CH#09 Operator: VOA1 REG. GRP. 2/06/92 0:30
Misc : ID#MS HALL NUS E-S-12 MED SOIL 4G/10MLX 25UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

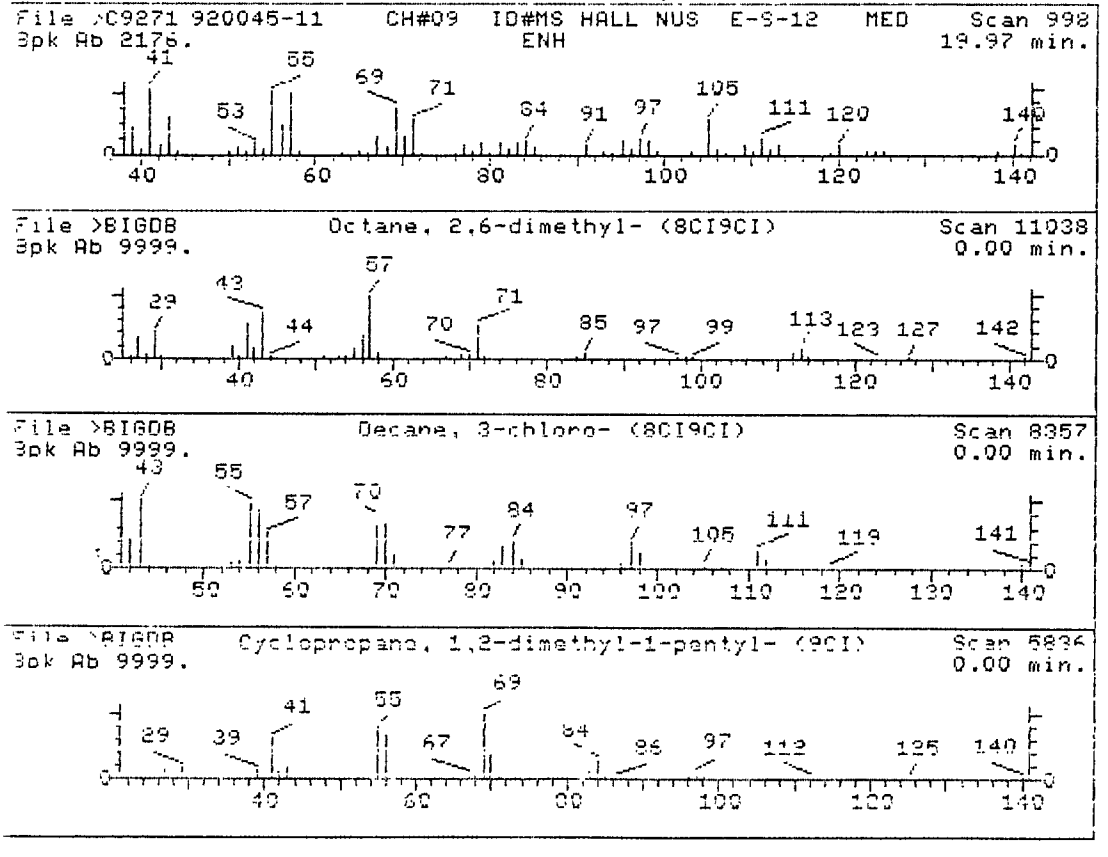
Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Octane, 2,6-dimethyl- (8CI9CI) 142 $C_{10}H_{22}$
2. Decane, 3-chloro- (8CI9CI) 176 $C_{10}H_{21}Cl$
3. Cyclopropane, 1,2-dimethyl-1-pentyl- (9CI) 140 $C_{10}H_{20}$
4. Cyclopentane, pentyl- (9CI) 140 $C_{10}H_{20}$
5. Octane, 4-ethyl- (8CI9CI) 142 $C_{10}H_{22}$

Sample file: >C9271 Spectrum #: 998
Search speed: 2 Tilting option: S No. of ion ranges searched: 83

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	40*	2051301	11038	"BIGDB	59	36	2	0	91	50	12	41
2.	38	1002115	8357	"BIGDB	77	34	1	-1	38	32	16	21
3.	26*	62238044	5836	"BIGDB	45	57	0	0	70	57	7	53
4.	25*	3741002	3361	"BIGDB	39	87	3	0	70	42	8	13
5.	25*	15869860	10847	"BIGDB	22	71	3	0	182	50	7	12

Unknown JJ



$$\text{conc} = \frac{66\,792}{507\,647} \times 50 = 7$$

281

MS data file header from : >C9271::D5

Sample: 920045-11 CH#09 Operator: VOA1 REG. GRP. 2/06/92 0:30
Misc : ID#MS HALL NUS E-S-12 MED SOIL 4G/10MLX 25UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

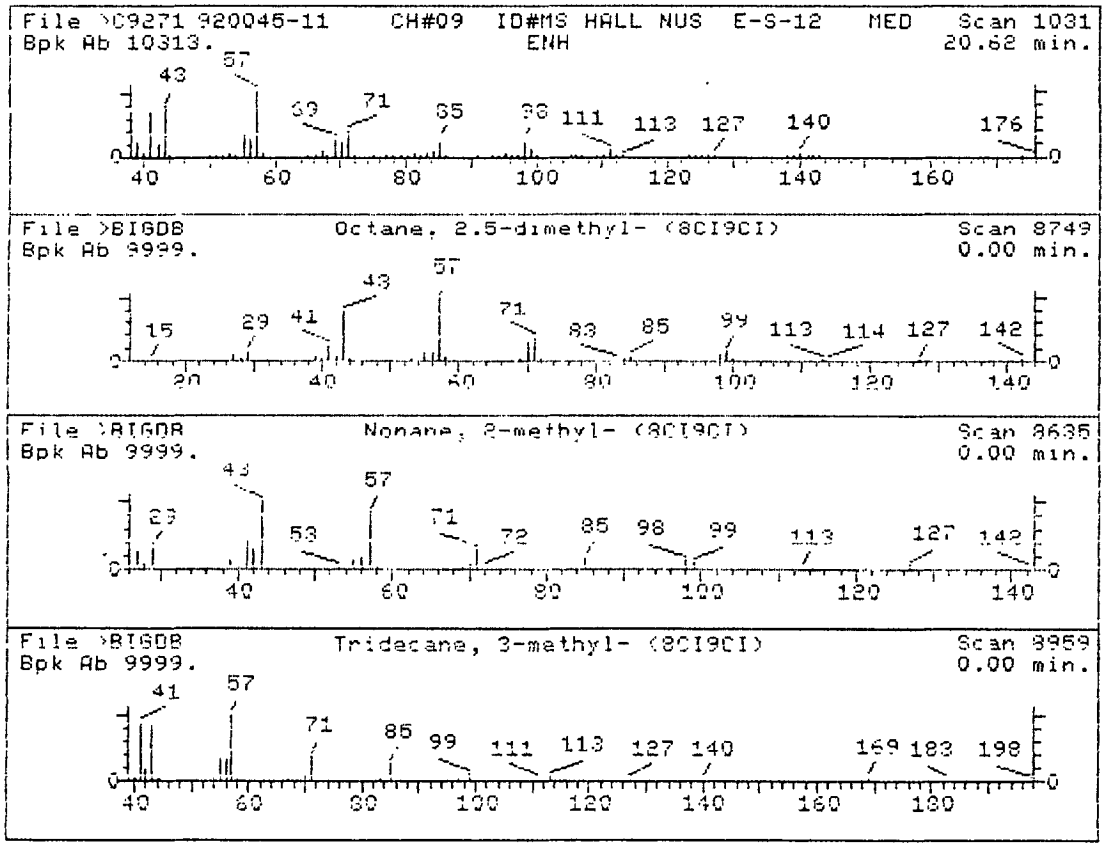
Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

1. Octane, 2,5-dimethyl- (8CI9CI) 142 C10H22
2. Nonane, 2-methyl- (8CI9CI) 142 C10H22
3. Tridecane, 3-methyl- (8CI9CI) 198 C14H30
4. Dodecane, 3-methyl- (8CI9CI) 184 C13H28
5. Octane, 3,5-dimethyl- (8CI9CI) 142 C10H22

Sample file: >C9271 Spectrum #: 1031
Search speed: 2 Tilting option: S No. of ion ranges searched: 61

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	71*	15869893	8749	"BIGDB	56	36	0	0	74	30	29	67
2.	67*	871830	8635	"BIGDB	58	38	3	0	118	15	34	27
3.	49	6418413	8959	"BIGDB	73	37	2	0	77	24	22	21
4.	49	17312571	6195	"BIGDB	62	37	2	0	92	25	22	21
5.	46*	15869939	3611	"BIGDB	31	62	0	0	79	27	19	24

Unk Aliphatic hydrocarbon JJ



conc = 413018 / 507647 x 50

= 41

MS data file header from : >C9271::D5

Sample: 920045-11 CH#09 Operator: VOA1 REG. GRP. 2/06/92 0:30
Misc : ID#MS HALL NUS E-S-12 MED SOIL 4G/10MLX 25UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

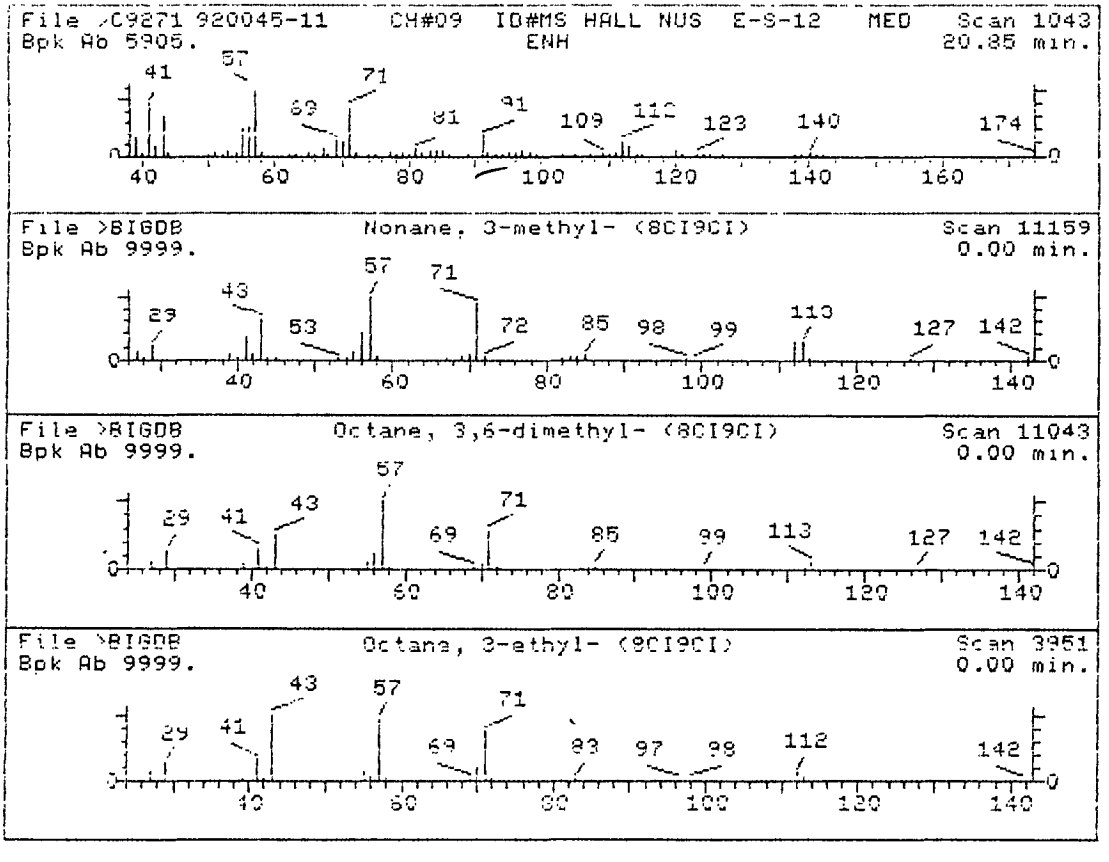
1. Nonane, 3-methyl- (8CI9CI) 142 C10H22
2. Octane, 3,6-dimethyl- (8CI9CI) 142 C10H22
3. Octane, 3-ethyl- (8CI9CI) 142 C10H22
4. Nonane, 2,3-dimethyl- (8CI9CI) 156 C11H24
5. Heptane, 3-ethyl-5-methyl- (9CI) 142 C10H22

Sample file: >C9271 Spectrum #: 1043
Search speed: 2 Tilting option: S No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	84*	5911046	11159	"BIGDB	72	27	1	2	83	7	55	60
2.	68*	15869940	11043	"BIGDB	45	44	0	0	100	23	30	53
3.	67*	5881174	3951	"BIGDB	59	34	2	-3	86	14	34	28
4.	67	2884062	10835	"BIGDB	63	38	1	0	82	15	34	22
5.	62*	52896909	3958	"BIGDB	40	54	0	0	67	27	25	41

Unknown

Aliphatic hydrocarbon



conc = 183543 / 507647 x 50

= 18

G/L

283

:S data file header from : >C9271::D5

:ample: 920045-11 CH#09 Operator: VOA1 REG. GRP. 2/06/92 0:30
:isc : ID#MS HALL NUS E-S-12 MED SOIL 4G/10MLX 25UL+IS LH
:ys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

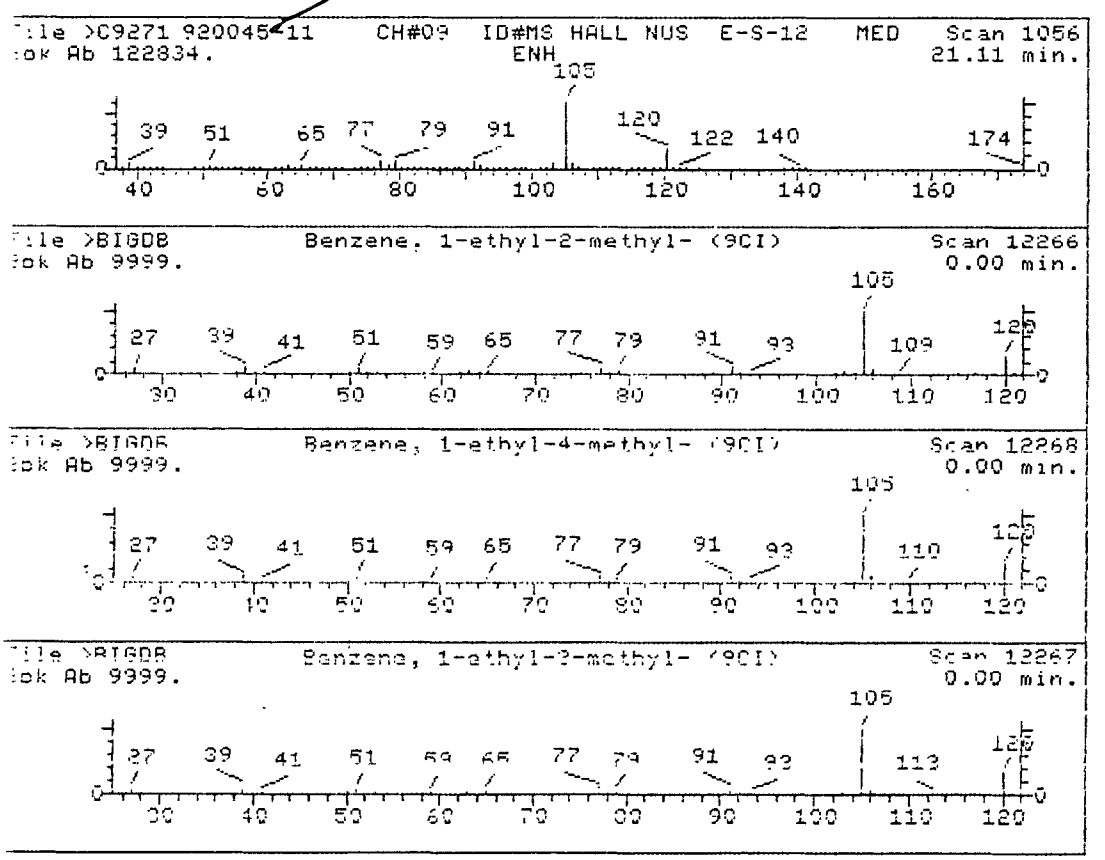
1. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
2. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12
3. Benzene, 1-ethyl-3-methyl- (9CI) 120 C9H12
4. Benzene, (1-methylethyl)- (9CI) 120 C9H12
5. Benzene, 1,2,3-trimethyl- (8CI9CI) 120 C9H12

Sample file: >C9271 Spectrum #: 1056
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	96*	611143	12266	"BIGDB	80	5	1	0	98	1	72	96
2.	95*	622968	12268	"BIGDB	79	6	1	0	97	5	72	95
3.	95*	620144	12267	"BIGDB	75	12	1	0	76	5	72	93
4.	86*	98828	12259	"BIGDB	54	33	2	0	88	5	60	39
5.	48*	526738	12280	"BIGDB	55	45	2	0	62	33	20	32

Unknown

C3-benzene isomer



conc = 272035D / 507647 x 50 = 268

MS data file header from : >C9271::D5

Sample: 920045-11 CH#09 Operator: VOA1 REG. GRP. 2/06/92 0:30
Misc : ID#MS HALL NUS E-S-12 MED SOIL 4G/10MLX 25UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

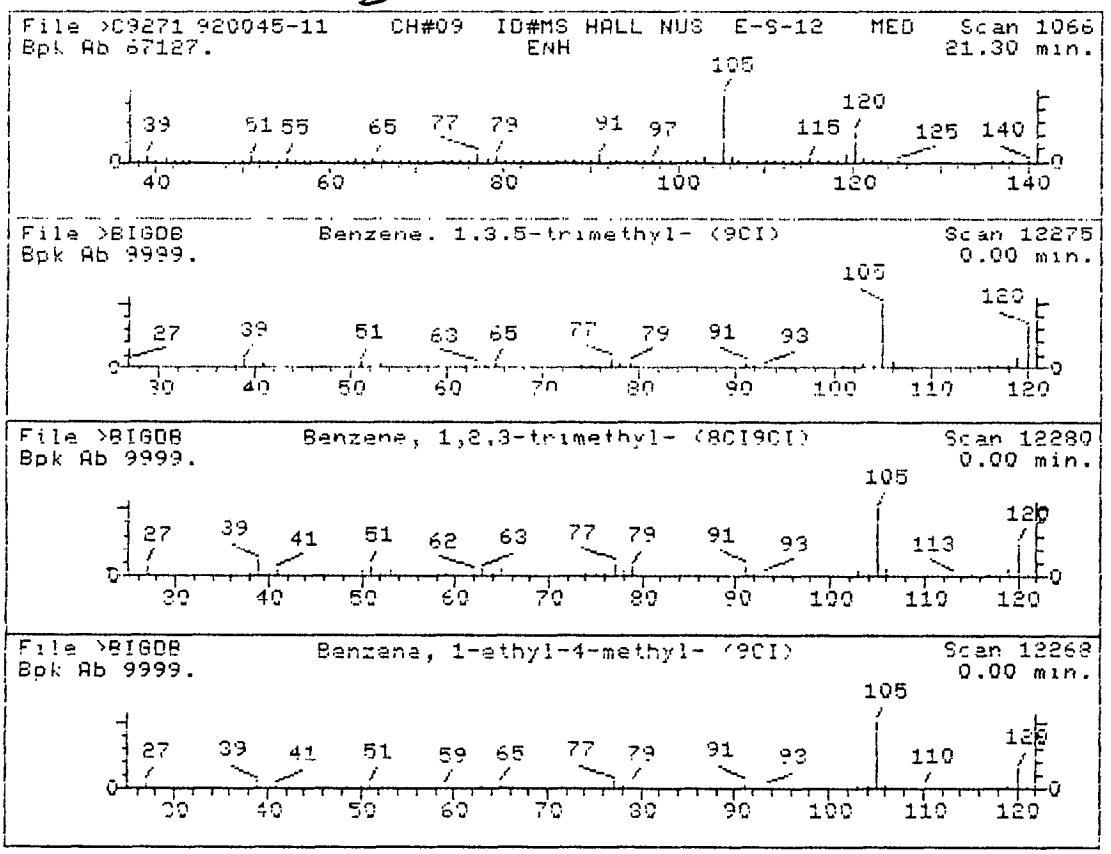
1. Benzene, 1,3,5-trimethyl- (9CI) 120 C9H12
2. Benzene, 1,2,3-trimethyl- (8CI9CI) 120 C9H12
3. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12
4. Benzene, 1,2,4-trimethyl- (8CI9CI) 120 C9H12
5. 1,3-Cyclopentadiene, 5-(1-methylpropylidene)- (9CI) 120 C9H12

Sample file: >C9271 Spectrum #: 1066
Search speed: 2 Tilting option: S No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	108678	12275	"BIGDB	73	15	2	0	70	4	66	66
2.	87*	526738	12280	"BIGDB	72	28	2	-1	74	3	63	44
3.	76*	622968	12268	"BIGDB	64	21	1	0	77	21	41	72
4.	71*	95636	12273	"BIGDB	67	28	1	0	61	28	29	66
5.	70*	3141024	12286	"BIGDB	34	70	3	0	73	10	42	13

Unknown

C_3-benzene isomer



$$cnc = \frac{155559 \times 50}{507647} = 153$$

OK

MS data file header from : >C9271::D5

Sample: 920045-11 CH#09 Operator: VOA1 REG. GRP. 2/06/92 0:30
Misc : ID#MS HALL NUS E-S-12 MED SOIL 4G/10MLX 25UL+IS LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

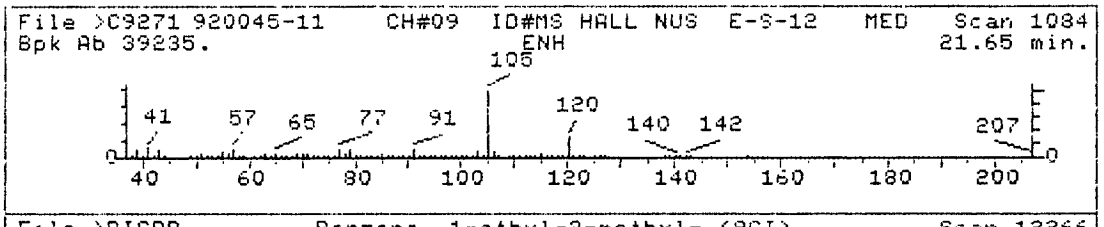
1. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
2. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12
3. Benzene, 1-ethyl-3-methyl- (9CI) 120 C9H12
4. Benzene, (1-methylethyl)- (9CI) 120 C9H12
5. Benzene, 1,2,4-trimethyl- (8CI9CI) 120 C9H12

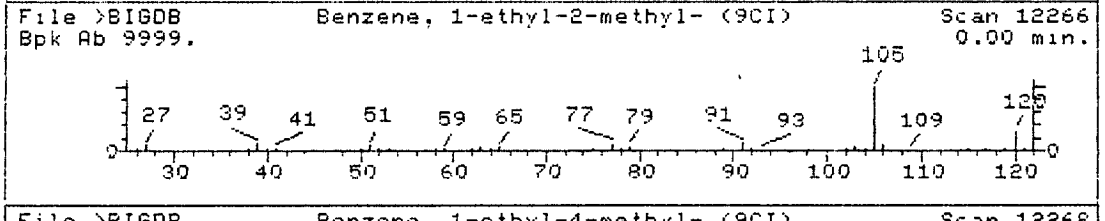
Sample file: >C9271 Spectrum #: 1084
Search speed: 2 Tilting option: S No. of ion ranges searched: 54

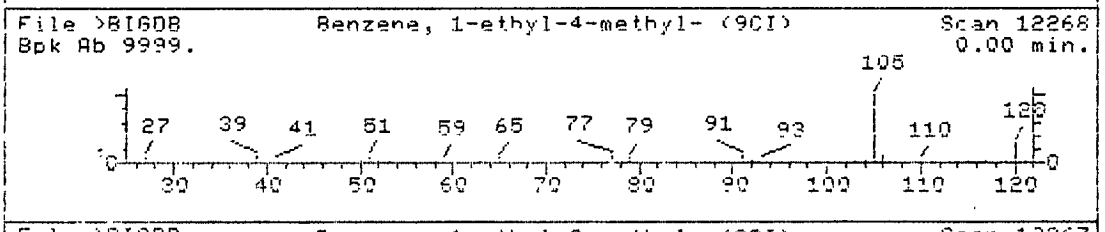
	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	97*	611143	12266	"BIGDB	85	0	0	0	90	7	68	97
2.	93*	622968	12268	"BIGDB	74	11	1	0	97	7	68	92
3.	84*	620144	12267	"BIGDB	70	17	2	0	95	7	55	61
4.	84*	98828	12259	"BIGDB	64	23	1	0	84	9	55	67
5.	58*	95636	12273	"BIGDB	58	37	1	0	54	36	19	49

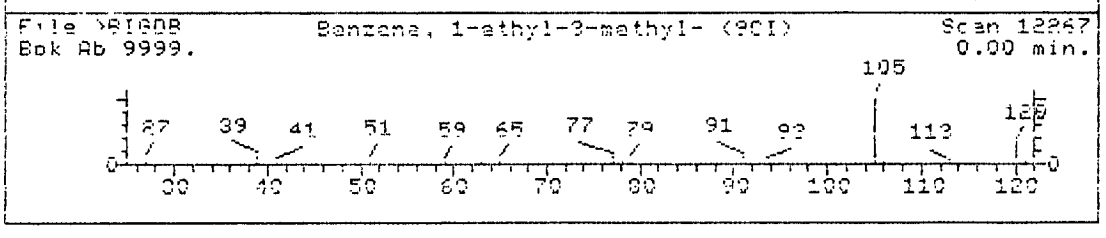
Unknown

C3-benzene isomer









$$\text{conc} = \frac{1050949 \times 50}{507647}$$

$= 104$

6/12

VOLATILES

c. Standards data

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Instrument ID: MS2 Calibration Date(s): 01/06/92 01/06/92

Heated Purge: (Y/N): N Calibration Times: 1032 1514

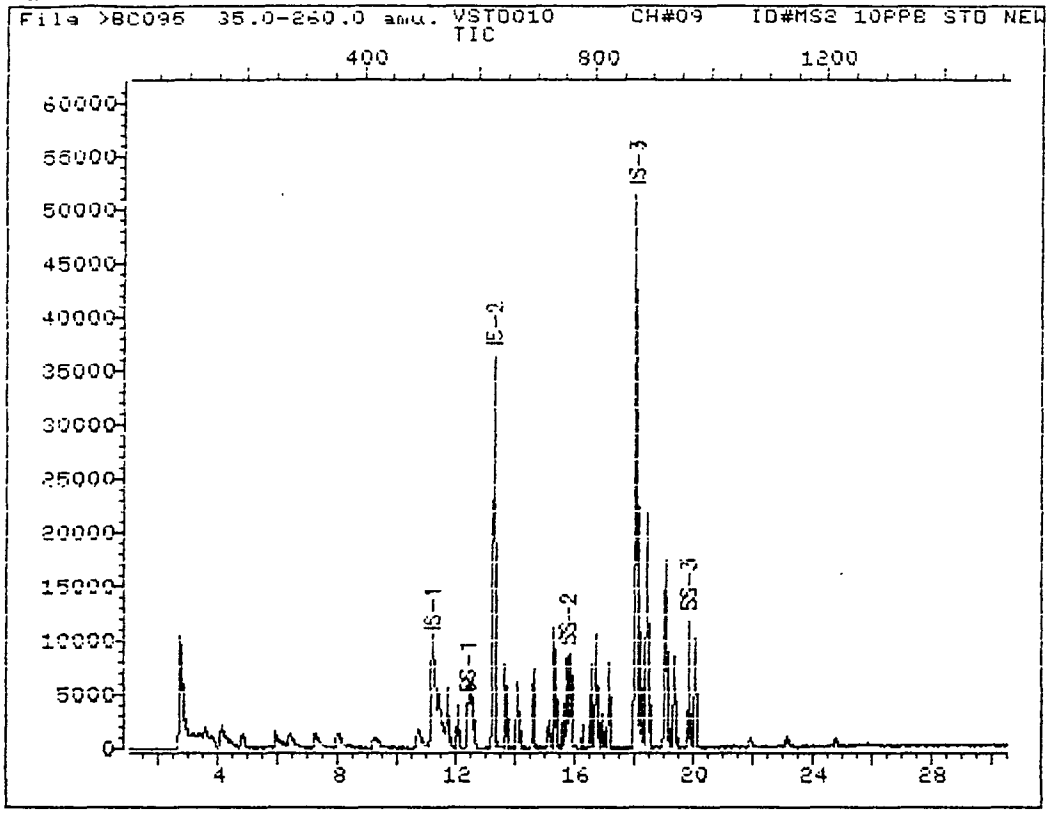
GC Column: DB-624 ID: 0.530(mm)

LAB FILE ID: RRF10 = BC095 RRF20 = BC094
RRF50= BC099 RRF100= BC096 RRF200= BC097

COMPOUND	RRF10	RRF20	RRF50	RRF100	RRF200	RRF	% RSD
Chloromethane	0.721	0.641	0.665	0.595	0.532	0.631	11.3
Bromomethane *	1.289	1.294	1.431	1.008	1.002	1.205	15.9*
Vinyl Chloride *	1.244	1.100	1.375	1.228	1.156	1.221	8.5*
Chloroethane	0.628	0.560	0.741	0.623	0.561	0.623	11.8
Methylene Chloride	1.618	1.406	1.649	1.470	1.436	1.516	7.3
Acetone	0.431	0.475	0.594	0.429	0.514	0.489	14.0
Carbon Disulfide	3.649	3.083	3.745	3.542	3.369	3.478	7.5
1,1-Dichloroethene *	1.165	1.113	1.500	1.350	1.259	1.277	12.1*
1,1-Dichloroethane *	2.405	2.402	2.917	2.520	2.388	2.526	8.9*
1,2-Dichloroethene (total)	1.444	1.431	1.596	1.474	1.435	1.476	4.7
Chloroform *	3.411	2.976	3.446	3.092	2.978	3.181	7.3*
1,2-Dichloroethane *	2.344	2.103	2.380	2.111	1.974	2.182	7.9*
2-Butanone	0.906	0.829	0.969	0.769	0.826	0.860	9.1
1,1,1-Trichloroethane *	0.647	0.616	0.716	0.672	0.633	0.657	5.9*
Carbon Tetrachloride *	0.501	0.483	0.618	0.590	0.573	0.553	10.5*
Bromodichloromethane *	0.828	0.717	0.850	0.770	0.789	0.791	6.6*
1,2-Dichloropropane	0.375	0.331	0.405	0.358	0.351	0.364	7.6
cis-1,3-Dichloropropene *	0.657	0.585	0.665	0.612	0.602	0.624	5.6*
Trichloroethene *	0.434	0.428	0.507	0.461	0.425	0.451	7.6*
Dibromochloromethane *	0.743	0.654	0.745	0.756	0.759	0.731	6.0*
1,1,2-Trichloroethane *	0.375	0.374	0.420	0.390	0.373	0.386	5.2*
Benzene *	0.893	0.821	0.968	0.868	0.806	0.871	7.4*
trans-1,3-Dichloropropene *	0.506	0.513	0.579	0.575	0.585	0.552	7.0*
Bromoform *	0.670	0.695	0.816	0.678	0.716	0.715	8.3*
4-Methyl-2-Pentanone	0.655	0.584	0.633	0.590	0.610	0.614	4.8
2-Hexanone	0.478	0.426	0.479	0.436	0.482	0.460	5.9
Tetrachloroethene *	0.507	0.481	0.537	0.555	0.478	0.512	6.6*
1,1,2,2-Tetrachloroethane *	1.105	1.001	1.030	0.962	1.036	1.027	5.1*
Toluene *	1.231	1.147	1.311	1.298	1.118	1.221	7.1*
Chlorobenzene *	0.978	0.855	1.022	1.050	0.922	0.965	8.1*
Ethylbenzene *	0.410	0.406	0.423	0.422	0.383	0.409	4.0*
Styrene *	0.908	0.827	0.984	0.922	0.929	0.914	6.2*
Xylene (total) *	0.485	0.448	0.550	0.511	0.469	0.493	8.0*
Toluene-d8	1.137	1.042	1.182	1.213	1.031	1.121	7.3
Bromofluorobenzene	1.003	0.892	0.939	0.933	0.906	0.935	4.6
1,2-Dichloroethane-d4	2.471	2.294	2.484	2.229	2.068	2.309	7.6

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

TOTAL ION CHROMATOGRAM



Data File: >BC095::D5 Quant Output File: ^BC095::QT
Name: VSTD010 CH#09 Instrument ID: MS2
Misc: ID#MS2 10PPB STD NEW CONTRACT LOW SOIL 5.0ML+IS 11-31 RW

Id File: V2ID::D1
Title: VOLATILE ANALYSIS CLP-TCL DB624 75 Meters ID:MS2
Last Calibration: 910429 11:21 Last Qcal Time: 920106 09:28

Operator ID: VOA2
Quant Time : 920106 11:48
Injected at: 920106 11:11

Case# 3916

CB

QUANT REPORT

Operator ID: VOA2 Quant Rev: 7 Quant Time: 920106 11:48
Output File: ^BC095::QT Injected at: 920106 11:11
Data File: >BC095::D5 Dilution Factor: 1.00000
Name: VSTD010 CH#09 Instrument ID: MS2
Misc: ID#MS2 10PPB STD NEW CONTRACT LOW SOIL 5.0ML+IS 11-31 RW

ID File: V2ID::D1
Title: VOLATILE ANALYSIS CLP-TCL DB624 75 Meters ID:MS2
Last Calibration: 910429 11:21 Last Qcal Time: 920106 09:28

		Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01	Bromochloromethane	11.18	128.0	17004M	50.00	UG/L	
2)	C010	Chloromethane	3.39	50.0	2453	7.75	UG/L	96
3)	C015	Bromomethane	4.09	94.0	4384	10.29	UG/L	96
4)	C020	Vinyl Chloride	3.52	62.0	4229	10.34	UG/L	86
5)	C025	Chloroethane	4.29	64.0	2136M	8.69	UG/L	96
6)	C030	Methylene Chloride	7.24	84.0	5503M	10.47	UG/L	85
7)	C035	Acetone	6.18	43.0	1466M	5.29	UG/L	89
8)	C040	Carbon Disulfide	6.38	76.0	12408	9.35	UG/L	99
9)	C045	1,1-Dichloroethene	5.95	96.0	3961M	8.15	UG/L	83
10)	C050	1,1-Dichloroethane	9.25	63.0	8178M	8.94	UG/L	
11)	C053	1,2-Dichloroethene(total)	10.67	96.0	9821M	19.16	UG/L	94
12)	C060	Chloroform	11.42	83.0	11599	9.96	UG/L	87
13)	CS15	1,2-Dichloroethane-d4	12.37	65.0	8403	10.17	UG/L	97
14)	C065	1,2-Dichloroethane	12.53	62.0	7971	10.07	UG/L	95
15)	C110	2-Butanone	10.77	43.0	3082M	8.77	UG/L	
16)	*CI10	1,4-Difluorobenzene	13.23	114.0	69988	50.00	UG/L	100
17)	C115	1,1,1-Trichloroethane	11.71	97.0	9053	9.45	UG/L	71
18)	C120	Carbon Tetrachloride	12.04	117.0	7006	7.66	UG/L	88
19)	C130	Bromodichloromethane	14.58	83.0	11597	10.41	UG/L	89
20)	C140	1,2-Dichloropropane	14.07	63.0	5251	9.87	UG/L	85
21)	C172	Trans-1,3-Dichloropropene	16.24	75.0	2833	3.26	UG/L	96
22)	C150	Trichloroethene	13.68	130.0	6077	9.36	UG/L	87
23)	C155	Dibromochloromethane	17.12	129.0	10397	9.09	UG/L	84
24)	C160	1,1,2-Trichloroethane	16.52	97.0	5244	9.38	UG/L	83
25)	C165	Benzene	12.45	78.0	12505	9.32	UG/L	100
26)	C143	cis-1,3-Dichloropropene	15.32	75.0	14720	16.66	UG/L	88
27)	C180	Bromoform	19.33	173.0	9382	7.92	UG/L	93
28)	*CI20	Chlorobenzene-d5	18.02	117.0	58372	50.00	UG/L	89
29)	C210	2-Hexanone	16.93	43.0	5586	10.73	UG/L	93
30)	C205	4-Methyl-2-Pentanone	15.60	43.0	7652	11.15	UG/L	90
31)	C220	Tetrachloroethene	16.71	164.0	5919	10.16	UG/L	89
32)	C225	1,1,2,2-Tetrachloroethane	20.05	83.0	12897M	10.91	UG/L	
33)	C230	Toluene	15.85	91.0	14374	10.77	UG/L	97
34)	CS05	Toluene d-8	15.75	98.0	13273	10.20	UG/L	92
35)	C235	Chlorobenzene	18.06	112.0	11415	10.12	UG/L	96
36)	C240	Ethylbenzene	18.24	106.0	4790	10.48	UG/L	99
37)	C245	Styrene	19.06	104.0	10599	9.81	UG/L	93
38)	C250	Total Xylenes	19.02	106.0	5657	9.36	UG/L	86
39)	CS10	Bromofluorobenzene	19.82	95.0	11714	11.29	UG/L	99

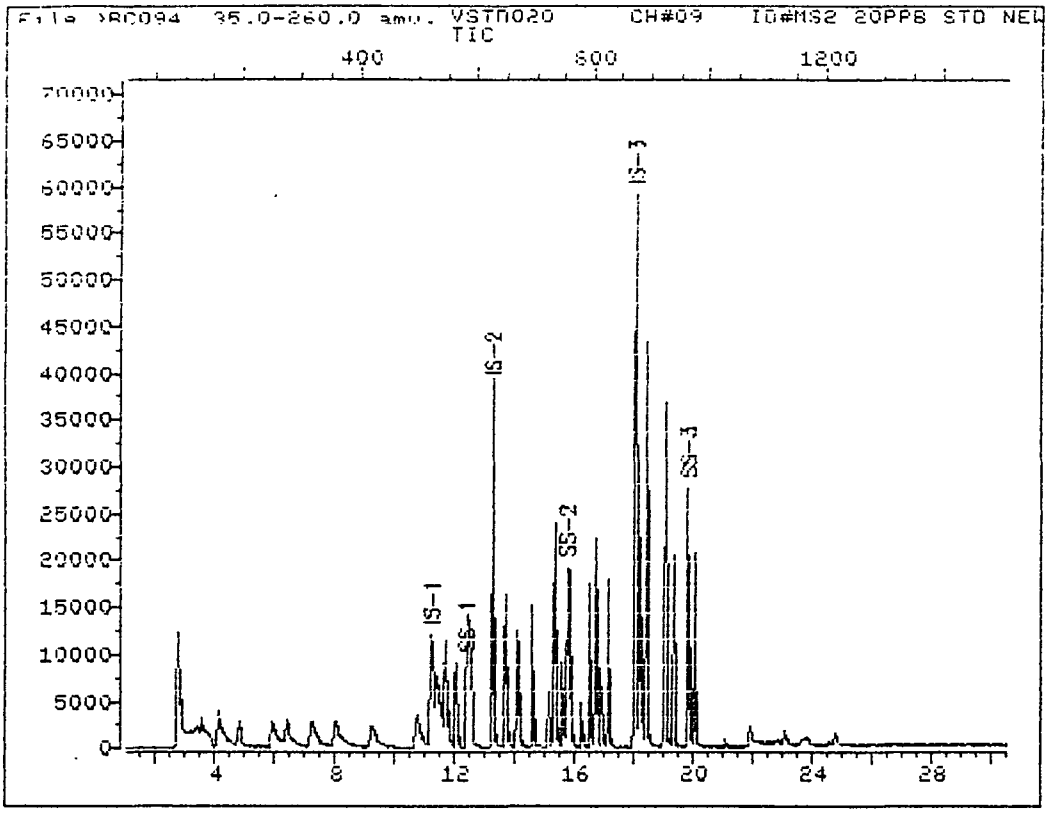
* Compound is ISTD

290

3916
case #

CB

TOTAL ION CHROMATOGRAM



Data File: >BC094::D5 Quant Output File: ^BC094::QT
Name: VSTD020 CH#09 Instrument ID: MS2
Misc: ID#MS2 20PPB STD NEW CONTRACT LOW SOIL 5.0ML+IS 11-31 RW

Id File: V2ID::D1
Title: VOLATILE ANALYSIS CLP-TCL DB624 75 Meters ID:MS2
Last Calibration: 910429 11:21 Last Qcal Time: 920106 09:28

Operator ID: VOA2
Quant Time : 920106 11:04
Injected at: 920106 10:32

39116
CASE#

CB

Operator ID: VOA2 Quant Rev: 7 Quant Time: 920106 11:04
Output File: ^BC094::QT Injected at: 920106 10:32
Data File: >BC094::D5 Dilution Factor: 1.00000
Name: VSTD020 CH#09 Instrument ID: MS2
Misc: ID#MS2 20PPB STD NEW CONTRACT LOW SOIL 5.0ML+IS 11-31 RW

ID File: V2ID::D1
Title: VOLATILE ANALYSIS CLP-TCL DB624 75 Meters ID:MS2
Last Calibration: 910429 11:21 Last Qcal Time: 920106 09:28

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	11.20	128.0	19908M	50.00	UG/L	
2)	C010 Chloromethane	3.38	50.0	5102	13.77	UG/L	90
3)	C015 Bromomethane	4.08	94.0	10303M	20.65	UG/L	80
4)	C020 Vinyl Chloride	3.52	62.0	8763M	18.30	UG/L	93
5)	C025 Chloroethane	4.28	64.0	4459M	15.50	UG/L	99
6)	C030 Methylene Chloride	7.21	84.0	11194M	18.19	UG/L	82
7)	C035 Acetone	6.20	43.0	3782M	11.66	UG/L	
8)	C040 Carbon Disulfide	6.37	76.0	24551	15.81	UG/L	97
9)	C045 1,1-Dichloroethene	5.92	96.0	8866M	15.58	UG/L	83
10)	C050 1,1-Dichloroethane	9.22	63.0	19131M	17.86	UG/L	92
11)	C053 1,2-Dichloroethene(total)	10.67	96.0	22786M	37.97	UG/L	90
12)	C060 Chloroform	11.41	83.0	23702	17.39	UG/L	87
13)	CS15 1,2-Dichloroethane-d4	12.39	65.0	18265	18.89	UG/L	96
14)	C065 1,2-Dichloroethane	12.53	62.0	16747	18.06	UG/L	95
15)	C110 2-Butanone	10.77	43.0	6600	16.04	UG/L	93
16)	*CI10 1,4-Difluorobenzene	13.23	114.0	81068	50.00	UG/L	100
17)	C115 1,1,1-Trichloroethane	11.71	97.0	19968	17.99	UG/L	81
18)	C120 Carbon Tetrachloride	12.04	117.0	15665	14.79	UG/L	83
19)	C130 Bromodichloromethane	14.58	83.0	23261	18.03	UG/L	99
20)	C140 1,2-Dichloropropane	14.07	63.0	10737	17.42	UG/L	91
21)	C172 Trans-1,3-Dichloropropene	16.22	75.0	6650	6.61	UG/L	99
22)	C150 Trichloroethene	13.68	130.0	13877	18.45	UG/L	92
23)	C155 Dibromochloromethane	17.12	129.0	21223	16.01	UG/L	85
24)	C160 1,1,2-Trichloroethane	16.51	97.0	12122	18.72	UG/L	91
25)	C165 Benzene	12.45	78.0	26637	17.14	UG/L	100
26)	C143 cis-1,3-Dichloropropene	15.32	75.0	30329	29.64	UG/L	99
27)	C180 Bromoform	19.33	173.0	22537	16.43	UG/L	94
28)	*CI20 Chlorobenzene-d5	18.02	117.0	68969	50.00	UG/L	91
29)	C210 2-Hexanone	16.90	43.0	11739	19.09	UG/L	91
30)	C205 4-Methyl-2-Pentanone	15.59	43.0	16111	19.87	UG/L	83
31)	C220 Tetrachloroethene	16.71	164.0	13262	19.27	UG/L	97
32)	C225 1,1,2,2-Tetrachloroethane	20.03	83.0	27620	19.78	UG/L	96
33)	C230 Toluene	15.85	91.0	31642	20.07	UG/L	91
34)	CS05 Toluene d-8	15.73	98.0	28750	18.71	UG/L	90
35)	C235 Chlorobenzene	18.06	112.0	23585	17.70	UG/L	94
36)	C240 Ethylbenzene	18.21	106.0	11213	20.77	UG/L	99
37)	C245 Styrene	19.03	104.0	22818	17.88	UG/L	75
38)	C250 Total Xylenes	19.02	106.0	12368	17.31	UG/L	86
39)	CS10 Bromofluorobenzene	19.82	95.0	24614	20.09	UG/L	97

* Compound is ISTD

case# 3916

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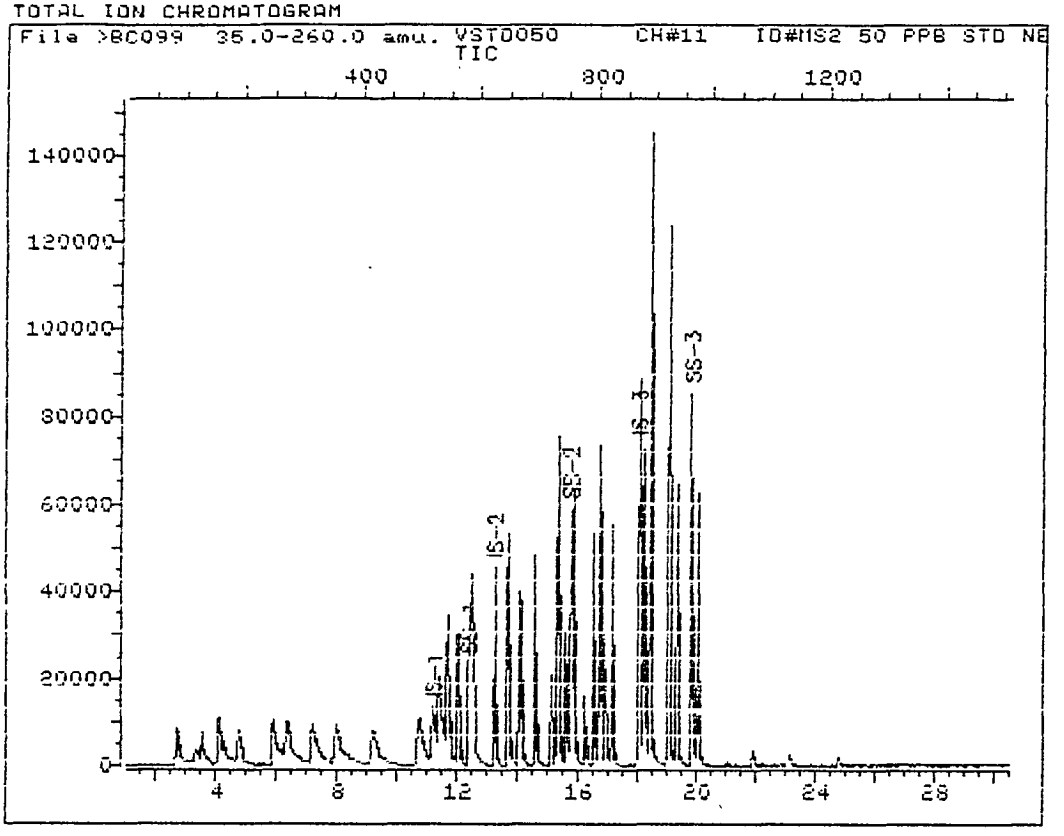
TOTAL ION CHROMATOGRAM



Data File: >BC099::D5 Quant Output File: ^BC099::QT
Name: VSTD050 CH#11 Instrument ID: MS2
Misc: ID#MS2 50 PPB STD NEW CONTRACT LOW SOIL 5.0ML+IS 11-31 RW

Id File: V2ID::D1
Title: VOLATILE ANALYSIS CLP-TCL DB624 75 Meters ID:MS2
Last Calibration: 910429 11:21 Last Qcal Time: 920106 09:28

Operator ID: VOA2
Quant Time : 920106 15:46
Injected at: 920106 15:14

case# 3916

CB

Operator ID: VOA2 Quant Rev: 7 Quant Time: 920106 15:46
Output File: ^BC099::QT Injected at: 920106 15:14
Data File: >BC099::D5 Dilution Factor: 1.00000
Name: VSTD050 CH#11 Instrument ID: MS2
Misc: ID#MS2 50 PPB STD NEW CONTRACT LOW SOIL 5.0ML+IS 11-31 RW

ID File: V2ID::D1
Title: VOLATILE ANALYSIS CLP-TCL DB624 75 Meters ID:MS2
Last Calibration: 910429 11:21 Last Qcal Time: 920106 09:28

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	11.20	128.0	21908M	50.00	UG/L	
2)	C010 Chloromethane	3.34	50.0	14560	35.70	UG/L	92
3)	C015 Bromomethane	4.04	94.0	31360M	57.13	UG/L	92
4)	C020 Vinyl Chloride	3.50	62.0	30119	57.16	UG/L	98
5)	C025 Chloroethane	4.24	64.0	16240M	51.29	UG/L	99
6)	C030 Methylene Chloride	7.19	84.0	36131M	53.37	UG/L	78
7)	C035 Acetone	6.16	43.0	13017M	36.46	UG/L	80
8)	C040 Carbon Disulfide	6.33	76.0	82045	48.01	UG/L	98
9)	C045 1,1-Dichloroethene	5.88	96.0	32865M	52.48	UG/L	91
10)	C050 1,1-Dichloroethane	9.20	63.0	63913M	54.21	UG/L	96
11)	C053 1,2-Dichloroethene(total)	10.67	96.0	69911M	102.72	UG/L	94
12)	C060 Chloroform	11.41	83.0	75499	50.34	UG/L	89
13)	CS15 1,2-Dichloroethane-d4	12.37	65.0	54415	51.13	UG/L	96
14)	C065 1,2-Dichloroethane	12.53	62.0	52144	51.11	UG/L	96
15)	C110 2-Butanone	10.77	43.0	21233	46.90	UG/L	94
16)	*CI10 1,4-Difluorobenzene	13.23	114.0	89192	50.00	UG/L	100
17)	C115 1,1,1-Trichloroethane	11.69	97.0	63875	52.31	UG/L	86
18)	C120 Carbon Tetrachloride	12.04	117.0	55137	47.30	UG/L	88
19)	C130 Bromodichloromethane	14.58	83.0	75787	53.40	UG/L	89
20)	C140 1,2-Dichloropropane	14.09	63.0	36136	53.28	UG/L	89
21)	C172 Trans-1,3-Dichloropropene	16.22	75.0	20663	18.66	UG/L	92
22)	C150 Trichloroethene	13.68	130.0	45254	54.70	UG/L	94
23)	C155 Dibromochloromethane	17.12	129.0	66438	45.56	UG/L	89
24)	C160 1,1,2-Trichloroethane	16.51	97.0	37497	52.64	UG/L	89
25)	C165 Benzene	12.45	78.0	86334	50.48	UG/L	100
26)	C143 cis-1,3-Dichloropropene	15.32	75.0	94841	84.25	UG/L	95
27)	C180 Bromoform	19.33	173.0	72764	48.21	UG/L	94
28)	*CI20 Chlorobenzene-d5	18.02	117.0	80292	50.00	UG/L	92
29)	C210 2-Hexanone	16.93	43.0	38491	53.77	UG/L	90
30)	C205 4-Methyl-2-Pentanone	15.60	43.0	50841	53.86	UG/L	81
31)	C220 Tetrachloroethene	16.71	164.0	43106	53.81	UG/L	90
32)	C225 1,1,2,2-Tetrachloroethane	20.05	83.0	82736	50.90	UG/L	96
33)	C230 Toluene	15.85	91.0	105263	57.36	UG/L	95
34)	CS05 Toluene d-8	15.73	98.0	94920	53.05	UG/L	99
35)	C235 Chlorobenzene	18.06	112.0	82073	52.92	UG/L	93
36)	C240 Ethylbenzene	18.24	106.0	33944	54.01	UG/L	95
37)	C245 Styrene	19.04	104.0	78997	53.17	UG/L	80
38)	C250 Total Xylenes	19.02	106.0	44138	53.08	UG/L	96
39)	CS10 Bromofluorobenzene	19.82	95.0	75362	52.83	UG/L	98

* Compound is ISTD

Case# 3916

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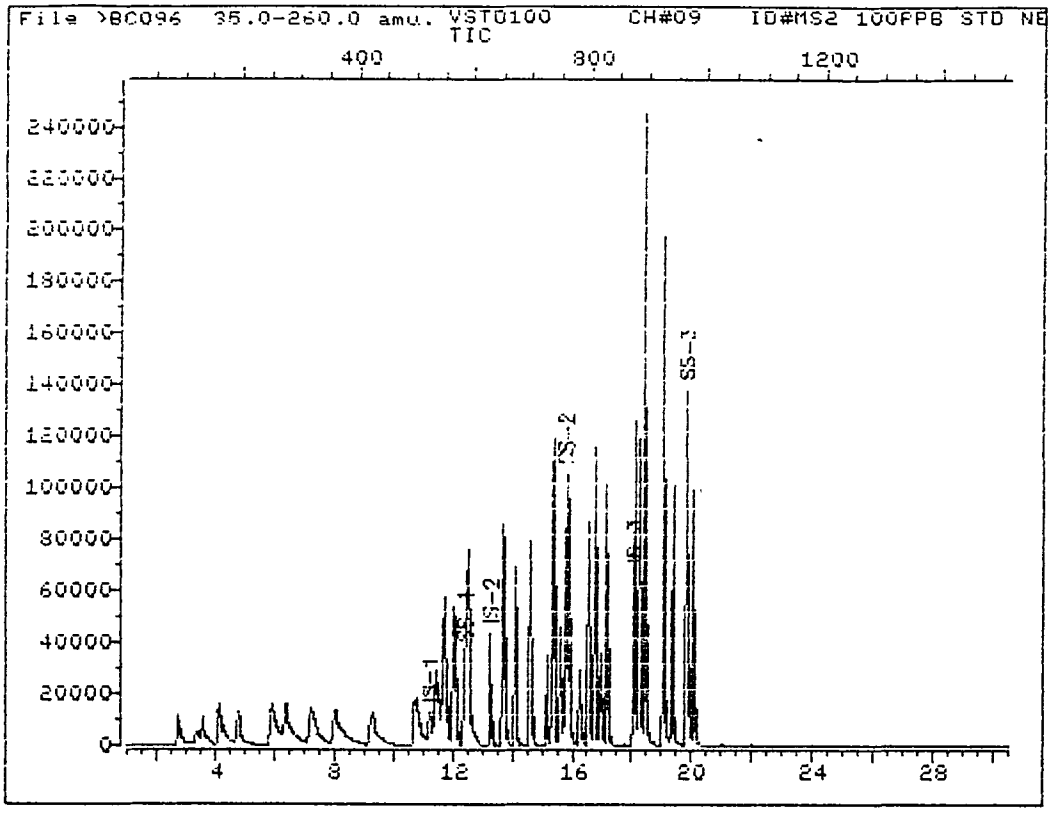
TOTAL ION CHROMATOGRAM



Data File: >BC096::D5 Quant Output File: ^BC096::QT
Name: VSTD100 CH#09 Instrument ID: MS2
Misc: ID#MS2 100PPB STD NEW CONTRACT LOW SOIL 5.0ML+IS 11-31 RW

Id File: V2ID::D1
Title: VOLATILE ANALYSIS CLP-TCL DB624 75 Meters ID:MS2
Last Calibration: 910429 11:21 Last Qcal Time: 920106 09:28

Operator ID: VOA2
Quant Time : 920106 12:23
Injected at: 920106 11:51

Case# 3916

CB

QUANT REPORT

Operator ID: VOA2 Quant Rev: 7 Quant Time: 920106 12:23
Output File: ^BC096::QT Injected at: 920106 11:51
Data File: >BC096::D5 Dilution Factor: 1.00000
Name: VSTD100 CH#09 Instrument ID: MS2
Misc: ID#MS2 100PPB STD NEW CONTRACT LOW SOIL 5.0ML+IS 11-31 RW

ID File: V2ID::D1
Title: VOLATILE ANALYSIS CLP-TCL DB624 75 Meters ID:MS2
Last Calibration: 910429 11:21 Last Qcal Time: 920106 09:28

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	11.22	128.0	20081M	50.00	UG/L	
2)	C010 Chloromethane	3.36	50.0	23912	63.96	UG/L	93
3)	C015 Bromomethane	4.08	94.0	40471	80.43	UG/L	89
4)	C020 Vinyl Chloride	3.51	62.0	49297	102.08	UG/L	92
5)	C025 Chloroethane	4.25	64.0	25014M	86.19	UG/L	92
6)	C030 Methylene Chloride	7.21	84.0	59022M	95.11	UG/L	84
7)	C035 Acetone	6.17	43.0	17212	52.59	UG/L	79
8)	C040 Carbon Disulfide	6.36	76.0	142274	90.82	UG/L	99
9)	C045 1,1-Dichloroethene	5.90	96.0	54201M	94.42	UG/L	91
10)	C050 1,1-Dichloroethane	9.24	63.0	101199	93.64	UG/L	95
11)	C053 1,2-Dichloroethene(total)	10.69	96.0	118431M	195.63	UG/L	84
12)	C060 Chloroform	11.43	83.0	124194	90.34	UG/L	94
13)	CS15 1,2-Dichloroethane-d4	12.39	65.0	89534	91.78	UG/L	95
14)	C065 1,2-Dichloroethane	12.55	62.0	84789	90.67	UG/L	95
15)	C110 2-Butanone	10.78	43.0	30881	74.42	UG/L	93
16)	*CI10 1,4-Difluorobenzene	13.25	114.0	80805	50.00	UG/L	100
17)	C115 1,1,1-Trichloroethane	11.70	97.0	108598	98.17	UG/L	79
18)	C120 Carbon Tetrachloride	12.04	117.0	95348	90.29	UG/L	98
19)	C130 Bromodichloromethane	14.58	83.0	124478	96.82	UG/L	91
20)	C140 1,2-Dichloropropane	14.09	63.0	57857	94.16	UG/L	92
21)	C172 Trans-1,3-Dichloropropene	16.24	75.0	37199	37.07	UG/L	97
22)	C150 Trichloroethene	13.68	130.0	74503	99.40	UG/L	96
23)	C155 Dibromochloromethane	17.14	129.0	122183	92.49	UG/L	82
24)	C160 1,1,2-Trichloroethane	16.51	97.0	62968	97.58	UG/L	91
25)	C165 Benzene	12.47	78.0	140279	90.54	UG/L	100
26)	C143 cis-1,3-Dichloropropene	15.34	75.0	158183	155.10	UG/L	96
27)	C180 Bromoform	19.33	173.0	109629	80.18	UG/L	91
28)	*CI20 Chlorobenzene-d5	18.02	117.0	65012	50.00	UG/L	94
29)	C210 2-Hexanone	16.93	43.0	56661	97.76	UG/L	91
30)	C205 4-Methyl-2-Pentanone	15.60	43.0	76692	100.35	UG/L	83
31)	C220 Tetrachloroethene	16.71	164.0	72113	111.18	UG/L	79
32)	C225 1,1,2,2-Tetrachloroethane	20.05	83.0	125033	94.99	UG/L	92
33)	C230 Toluene	15.87	91.0	168770	113.59	UG/L	90
34)	CS05 Toluene d-8	15.75	98.0	157714	108.87	UG/L	99
35)	C235 Chlorobenzene	18.06	112.0	136558	108.74	UG/L	88
36)	C240 Ethylbenzene	18.24	106.0	54908	107.90	UG/L	97
37)	C245 Styrene	19.04	104.0	119880	99.65	UG/L	83
38)	C250 Total Xylenes	19.02	106.0	66445	98.68	UG/L	93
39)	CS10 Bromofluorobenzene	19.82	95.0	121368	105.07	UG/L	88

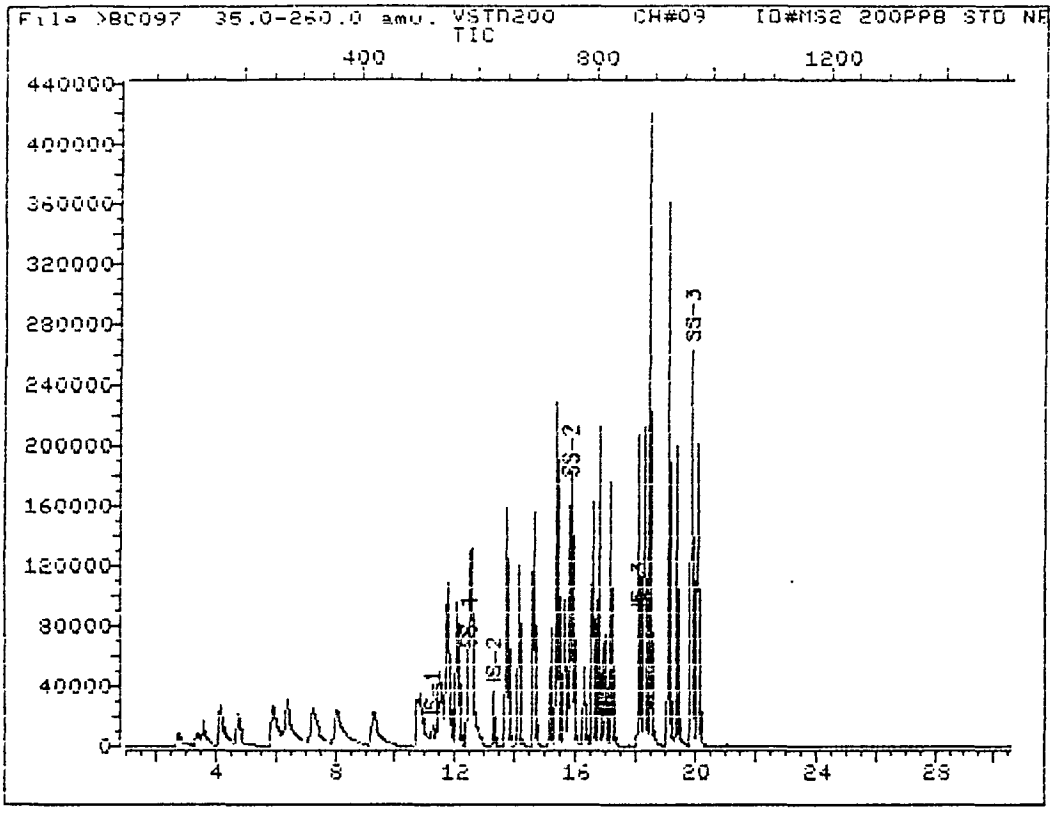
* Compound is ISTD

3910

Case#

CB

TOTAL ION CHROMATOGRAM



Data File: >BC097::D5 Quant Output File: ^BC097::QT
Name: VSTD200 CH#09 Instrument ID: MS2
Misc: ID#MS2 200PPB STD NEW CONTRACT LOW SOIL 5.0ML+IS 11-31 RW

Id File: V2ID::D1
Title: VOLATILE ANALYSIS CLP-TCL DB624 75 Meters ID:MS2
Last Calibration: 910429 11:21 Last Qcal Time: 920106 09:28

Operator ID: VOA2
Quant Time : 920106 13:14
Injected at: 920106 12:42

Case # 39110

CB

Operator ID: VOA2 Quant Rev: 7 Quant Time: 920106 13:14
Output File: ^BC097::QT Injected at: 920106 12:42
Data File: >BC097::D5 Dilution Factor: 1.00000
Name: VSTD200 CH#09 Instrument ID: MS2
Misc: ID#MS2 200PPB STD NEW CONTRACT LOW SOIL 5.0ML+IS 11-31 RW

ID File: V2ID::D1
Title: VOLATILE ANALYSIS CLP-TCL DB624 75 Meters ID:MS2
Last Calibration: 910429 11:21 Last Qcal Time: 920106 09:28

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	11.22	128.0	19592M	50.00	UG/L	
2)	C010 Chloromethane	3.40	50.0	41693	114.30	UG/L	98
3)	C015 Bromomethane	4.10	94.0	78520	159.94	UG/L	98
4)	C020 Vinyl Chloride	3.53	62.0	90634	192.35	UG/L	93
5)	C025 Chloroethane	4.28	64.0	43963M	155.25	UG/L	77
6)	C030 Methylene Chloride	7.21	84.0	112535M	185.87	UG/L	74
7)	C035 Acetone	6.27	43.0	40310M	126.24	UG/L	77
8)	C040 Carbon Disulfide	6.35	76.0	263989	172.72	UG/L	99
9)	C045 1,1-Dichloroethene	5.90	96.0	98667M	176.17	UG/L	85
10)	C050 1,1-Dichloroethane	9.24	63.0	187160	177.50	UG/L	92
11)	C053 1,2-Dichloroethene(total)	10.71	96.0	224983M	369.65	UG/L	89
12)	C060 Chloroform	11.47	83.0	233419	174.03	UG/L	89
13)	CS15 1,2-Dichloroethane-d4	12.41	65.0	162026	170.23	UG/L	99
14)	C065 1,2-Dichloroethane	12.55	62.0	154692	169.54	UG/L	93
15)	C110 2-Butanone	10.81	43.0	64760	159.96	UG/L	94
16)	*CI10 1,4-Difluorobenzene	13.25	114.0	75734	50.00	UG/L	100
17)	C115 1,1,1-Trichloroethane	11.72	97.0	191632	184.82	UG/L	73
18)	C120 Carbon Tetrachloride	12.04	117.0	173621	175.43	UG/L	95
19)	C130 Bromodichloromethane	14.60	83.0	238877	198.24	UG/L	96
20)	C140 1,2-Dichloropropane	14.09	63.0	106421	184.79	UG/L	88
21)	C172 Trans-1,3-Dichloropropene	16.24	75.0	70854	75.35	UG/L	94
22)	C150 Trichloroethene	13.70	130.0	128763	183.30	UG/L	94
23)	C155 Dibromochloromethane	17.14	129.0	229923	185.70	UG/L	84
24)	C160 1,1,2-Trichloroethane	16.54	97.0	113028	186.89	UG/L	94
25)	C165 Benzene	12.49	78.0	244121	168.11	UG/L	100
26)	C143 cis-1,3-Dichloropropene	15.34	75.0	291878	305.35	UG/L	92
27)	C180 Bromoform	19.35	173.0	216857	169.23	UG/L	93
28)	*CI20 Chlorobenzene-d5	18.04	117.0	63941	50.00	UG/L	91
29)	C210 2-Hexanone	16.95	43.0	123150	216.04	UG/L	92
30)	C205 4-Methyl-2-Pentanone	15.62	43.0	156114	207.69	UG/L	87
31)	C220 Tetrachloroethene	16.73	164.0	122232	191.60	UG/L	91
32)	C225 1,1,2,2-Tetrachloroethane	20.08	83.0	265074	204.76	UG/L	97
33)	C230 Toluene	15.87	91.0	285821	195.59	UG/L	97
34)	CS05 Toluene d-8	15.77	98.0	263788	185.14	UG/L	96
35)	C235 Chlorobenzene	18.08	112.0	235866	190.97	UG/L	86
36)	C240 Ethylbenzene	18.24	106.0	98019	195.84	UG/L	98
37)	C245 Styrene	19.06	104.0	237605	200.82	UG/L	84
38)	C250 Total Xylenes	19.04	106.0	119951	181.13	UG/L	98
39)	CS10 Bromofluorobenzene	19.84	95.0	231783	204.03	UG/L	87

* Compound is ISTD

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case# 3916

CB

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Instrument ID: MS3 Calibration Date(s): 02/01/92 02/01/92

Heated Purge: (Y/N): N Calibration Times: 0944 1817

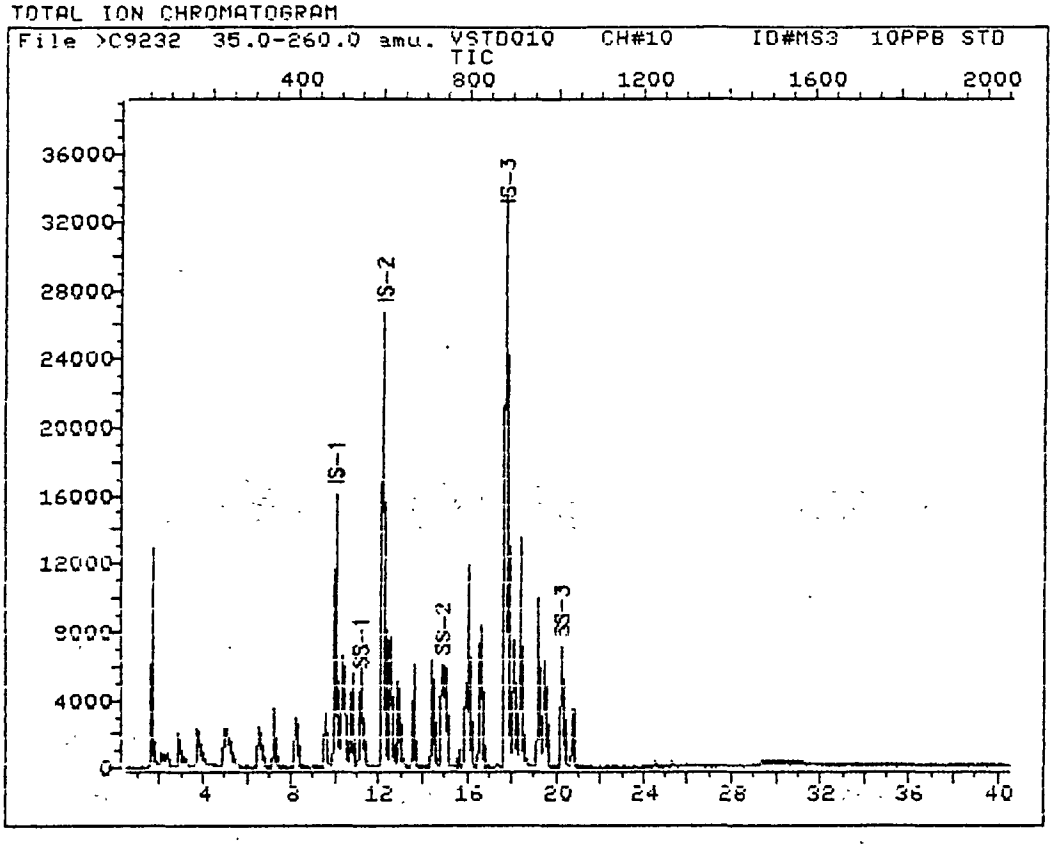
GC Column: DB-624 ID: 0.530(mm)

LAB FILE ID: RRF10 = C9232 RRF20 = C9226
RRF50= C9224 RRF100= C9227 RRF200= C9228

COMPOUND	RRF10	RRF20	RRF50	RRF100	RRF200	RRF	% RSD
Chloromethane	0.770	0.664	0.683	0.813	0.836	0.753	10.2
Bromomethane *	1.527	1.559	1.647	1.825	1.825	1.677	8.5*
Vinyl Chloride *	0.932	0.912	0.922	1.056	1.078	0.980	8.2*
Chloroethane	0.533	0.526	0.588	0.649	0.672	0.594	11.1
Methylene Chloride	1.462	1.163	1.266	1.291	1.306	1.298	8.3
Acetone	0.113	0.100	0.164	0.119	0.110	0.121	20.6
Carbon Disulfide	2.596	2.624	3.050	3.060	3.198	2.906	9.5
1,1-Dichloroethene *	1.350	1.324	1.407	1.450	1.468	1.400	4.4*
1,1-Dichloroethane *	2.691	2.502	2.689	2.687	2.678	2.649	3.1*
1,2-Dichloroethene (total)	1.277	1.351	1.553	1.502	1.534	1.443	8.5
Chloroform *	3.923	3.821	4.037	3.919	3.860	3.912	2.1*
1,2-Dichloroethane *	1.893	2.003	2.354	2.194	2.135	2.116	8.4*
2-Butanone	0.211	0.169	0.229	0.171	0.161	0.188	15.9
1,1,1-Trichloroethane *	0.825	0.931	1.083	0.986	0.978	0.961	9.8*
Carbon Tetrachloride *	0.848	0.894	1.106	1.030	1.038	0.983	11.0*
Bromodichloromethane *	0.888	0.986	1.224	1.081	1.072	1.050	11.9*
1,2-Dichloropropane	0.389	0.344	0.366	0.377	0.382	0.372	4.7
cis-1,3-Dichloropropene *	0.517	0.536	0.628	0.603	0.614	0.580	8.6*
Trichloroethene *	0.650	0.603	0.676	0.647	0.645	0.644	4.1*
Dibromochloromethane *	1.039	0.976	1.229	1.090	1.089	1.085	8.6*
1,1,2-Trichloroethane *	0.375	0.326	0.405	0.371	0.364	0.368	7.7*
Benzene *	0.733	0.774	0.855	0.824	0.869	0.811	7.0*
trans-1,3-Dichloropropene *	0.352	0.375	0.453	0.399	0.440	0.404	10.6*
Bromoform *	0.726	0.743	1.074	0.903	0.905	0.870	16.3*
4-Methyl-2-Pentanone	0.187	0.153	0.230	0.191	0.186	0.189	14.5
2-Hexanone	0.099	0.089	0.130	0.113	0.103	0.107	14.5
Tetrachloroethene *	0.789	0.725	0.788	0.775	0.754	0.766	3.5*
1,1,2,2-Tetrachloroethane *	0.493	0.412	0.557	0.514	0.492	0.494	10.7*
Toluene *	1.100	1.078	1.205	1.244	1.231	1.172	6.6*
Chlorobenzene *	1.135	1.028	1.145	1.165	1.132	1.121	4.8*
Ethylbenzene *	0.398	0.402	0.450	0.455	0.455	0.432	6.8*
Styrene *	0.793	0.820	1.001	0.989	1.011	0.923	11.6*
Xylene (total) *	0.521	0.559	0.632	0.596	0.600	0.582	7.3*
Toluene-d8	0.934	1.019	1.196	1.239	1.226	1.123	12.3
Bromofluorobenzene	0.807	0.879	1.022	1.035	1.034	0.955	11.1
1,2-Dichloroethane-d4	1.720	1.987	2.444	2.253	2.213	2.123	13.1

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

TOTAL ION CHROMATOGRAM



Data File: >C9232::D5 Quant Output File: ^C9232::QT
Name: VSTD010 CH#10 Instrument ID: MS3
Misc: ID#MS3 10PPB STD LOW WATER 5.0ML+IS LH

Id File: V3ID::SC
Title: VOLATILE ANALYSIS CLP-TCL DB624 30Mx0.53IDx3uM ID#MS3
Last Calibration: 910429 11:21 Last Qcal Time: 920201 09:44

Operator ID: VOA2
Quant Time : 920201 18:58
Injected at: 920201 18:17

case# 3916

300

Operator ID: VOA2 Quant Rev: 7 Quant Time: 920201 18:58
Output File: ^C9232::QT Injected at: 920201 18:17
Data File: >C9232::D5 Dilution Factor: 1.00000
Name: VSTD010 CH#10 Instrument ID: MS3
Misc: ID#MS3 10PPB STD LOW WATER 5.0ML+IS LH

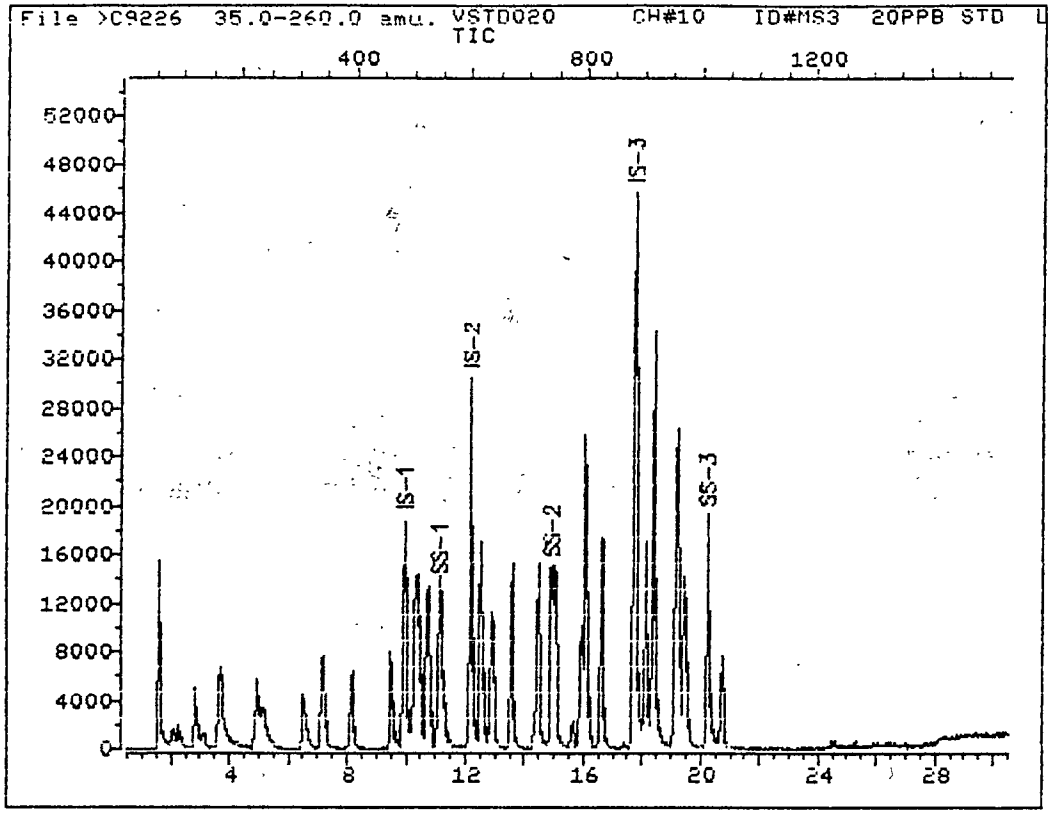
ID File: V3ID::SC
Title: VOLATILE ANALYSIS CLP-TCL DB624 30Mx0.53IDx3uM ID#MS3
Last Calibration: 910429 11:21 Last Qcal Time: 920201 09:44

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	9.95	128.0	21646	50.00	UG/L	78
2)	C010 Chloromethane	2.10	50.0	3334	11.28	UG/L	99
3)	C015 Bromomethane	2.86	94.0	6609	9.27	UG/L	84
4)	C020 Vinyl Chloride	2.27	62.0	4033	10.11	UG/L	96
5)	C025 Chloroethane	3.11	64.0	2309	9.06	UG/L	96
6)	C030 Methylene Chloride	6.53	84.0	6327	11.54	UG/L	78
7)	C035 Acetone	5.48	43.0	491M	6.90	UG/L	
8)	C040 Carbon Disulfide	5.24	76.0	11237	8.51	UG/L	97
9)	C045 1,1-Dichloroethene	5.01	96.0	5843	9.59	UG/L	91
10)	C050 1,1-Dichloroethane	8.17	63.0	11651	10.01	UG/L	95
11)	C053 1,2-Dichloroethene(total)	9.50	96.0	11058M	32.95	UG/L	91
12)	C060 Chloroform	10.28	83.0	16983	9.72	UG/L	94
13)	CS15 1,2-Dichloroethane-d4	11.10	65.0	7445	7.04	UG/L	92
14)	C065 1,2-Dichloroethane	11.25	62.0	8194	8.04	UG/L	91
15)	C110 2-Butanone	9.71	43.0	912M	9.18	UG/L	
16)	*CI10 1,4-Difluorobenzene	12.15	114.0	82175	50.00	UG/L	100
17)	C115 1,1,1-Trichloroethane	10.41	97.0	13566M	14.74	UG/L	
18)	C120 Carbon Tetrachloride	10.71	117.0	13941	7.67	UG/L	87
19)	C130 Bromodichloromethane	13.54	83.0	14587	7.25	UG/L	97
20)	C140 1,2-Dichloropropane	12.88	63.0	6400	10.65	UG/L	93
21)	C172 Trans-1,3-Dichloropropene	15.57	75.0	2315	2.96	UG/L	99
22)	C150 Trichloroethene	12.48	130.0	10687	9.62	UG/L	95
23)	C155 Dibromochloromethane	16.57	129.0	17075	8.45	UG/L	87
24)	C160 1,1,2-Trichloroethane	15.88	97.0	6164	9.27	UG/L	92
25)	C165 Benzene	11.14	78.0	12053	8.57	UG/L	100
26)	C143 cis-1,3-Dichloropropene	14.42	75.0	13591	13.34	UG/L	95
27)	C180 Bromoform	19.42	173.0	11935	6.76	UG/L	94
28)	*CI20 Chlorobenzene-d5	17.68	117.0	74618	50.00	UG/L	93
29)	C210 2-Hexanone	16.55	43.0	1475M	7.63	UG/L	
30)	C205 4-Methyl-2-Pentanone	14.89	43.0	2798M	5.35	UG/L	
31)	C220 Tetrachloroethene	16.02	164.0	11775	10.01	UG/L	97
32)	C225 1,1,2,2-Tetrachloroethane	20.69	83.0	7354	8.85	UG/L	90
33)	C230 Toluene	15.00	91.0	16423	9.13	UG/L	98
34)	CS05 Toluene d-8	14.87	98.0	13932	7.80	UG/L	85
35)	C235 Chlorobenzene	17.74	112.0	16938	9.91	UG/L	99
36)	C240 Ethylbenzene	18.07	106.0	5939	8.84	UG/L	91
37)	C245 Styrene	19.18	104.0	11838	7.92	UG/L	81
38)	C250 Total Xylenes	19.12	106.0	7782	8.25	UG/L	98
39)	CS10 Bromofluorobenzene	20.20	95.0	12050	7.90	UG/L	89

* Compound is ISTD

case# 39116

TOTAL ION CHROMATOGRAM



Data File: >C9226::D5 Quant Output File: ^C9226::QT
Name: VSTD020 CH#10 Instrument ID: MS3
Misc: ID#MS3 20PPB STD LOW WATER 5.0ML+IS LH

Id File: V3ID::SC
Title: VOLATILE ANALYSIS CLP-TCL DB624 30Mx0.53IDx3uM ID#MS3
Last Calibration: 910429 11:21 Last Qcal Time: 920201 09:44

Operator ID: VOA1
Quant Time : 920201 12:07
Injected at: 920201 11:05

case #3916

300

Operator ID: VOA1 Quant Rev: 7 Quant Time: 920201 12:07
Output File: ^C9226::QT Injected at: 920201 11:05
Data File: >C9226::D5 Dilution Factor: 1.00000
Name: VSTD020 CH#10 Instrument ID: MS3
Misc: ID#MS3 20PPB STD LOW WATER 5.0ML+IS LH

ID File: V3ID::SC
Title: VOLATILE ANALYSIS CLP-TCL DB624 30Mx0.53IDx3uM ID#MS3
Last Calibration: 910429 11:21 Last Qcal Time: 920201 09:44

		Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01	Bromochloromethane	9.93	128.0	24703	50.00	UG/L	81
2)	C010	Chloromethane	2.10	50.0	6558	19.45	UG/L	91
3)	C015	Bromomethane	2.82	94.0	15401	18.92	UG/L	90
4)	C020	Vinyl Chloride	2.26	62.0	9008	19.78	UG/L	98
5)	C025	Chloroethane	3.08	64.0	5198	17.88	UG/L	99
6)	C030	Methylene Chloride	6.49	84.0	11494	18.37	UG/L	76
7)	C035	Acetone	5.42	43.0	985M	12.12	UG/L	
8)	C040	Carbon Disulfide	5.15	76.0	25925	17.21	UG/L	98
9)	C045	1,1-Dichloroethene	4.93	96.0	13079	18.81	UG/L	90
10)	C050	1,1-Dichloroethane	8.13	63.0	24718	18.60	UG/L	92
11)	C053	1,2-Dichloroethene(total)	9.48	96.0	26691M	69.70	UG/L	95
12)	C060	Chloroform	10.26	83.0	37754	18.93	UG/L	94
13)	CS15	1,2-Dichloroethane-d4	11.10	65.0	19631	16.26	UG/L	95
14)	C065	1,2-Dichloroethane	11.24	62.0	19795	17.02	UG/L	94
15)	C110	2-Butanone	9.71	43.0	1671M	14.74	UG/L	
16)	*CI10	1,4-Difluorobenzene	12.14	114.0	92717	50.00	UG/L	100
17)	C115	1,1,1-Trichloroethane	10.40	97.0	34516M	33.23	UG/L	
18)	C120	Carbon Tetrachloride	10.73	117.0	33170	16.17	UG/L	85
19)	C130	Bromodichloromethane	13.54	83.0	36551	16.11	UG/L	91
20)	C140	1,2-Dichloropropane	12.88	63.0	12749	18.81	UG/L	92
21)	C172	Trans-1,3-Dichloropropene	15.59	75.0	5559	6.29	UG/L	99
22)	C150	Trichloroethene	12.49	130.0	22352	17.84	UG/L	96
23)	C155	Dibromochloromethane	16.57	129.0	36188	15.88	UG/L	88
24)	C160	1,1,2-Trichloroethane	15.89	97.0	12085	16.11	UG/L	88
25)	C165	Benzene	11.12	78.0	28697	18.09	UG/L	100
26)	C143	cis-1,3-Dichloropropene	14.44	75.0	31820	27.68	UG/L	98
27)	C180	Bromoform	19.42	173.0	27560	13.84	UG/L	96
28)	*CI20	Chlorobenzene-d5	17.70	117.0	87522	50.00	UG/L	98
29)	C210	2-Hexanone	16.57	43.0	3125M	13.78	UG/L	
30)	C205	4-Methyl-2-Pentanone	14.87	43.0	5370M	8.76	UG/L	
31)	C220	Tetrachloroethene	16.04	164.0	25389	18.40	UG/L	93
32)	C225	1,1,2,2-Tetrachloroethane	20.71	83.0	14418	14.80	UG/L	92
33)	C230	Toluene	15.01	91.0	37753	17.90	UG/L	94
34)	CS05	Toluene d-8	14.87	98.0	35686	17.04	UG/L	92
35)	C235	Chlorobenzene	17.74	112.0	35978	17.95	UG/L	98
36)	C240	Ethylbenzene	18.09	106.0	14061	17.85	UG/L	97
37)	C245	Styrene	19.21	104.0	28693	16.37	UG/L	87
38)	C250	Total Xylenes	19.15	106.0	19586	17.70	UG/L	97
39)	CS10	Bromofluorobenzene	20.20	95.0	30773	17.20	UG/L	88

* Compound is ISTD

cal# 3916

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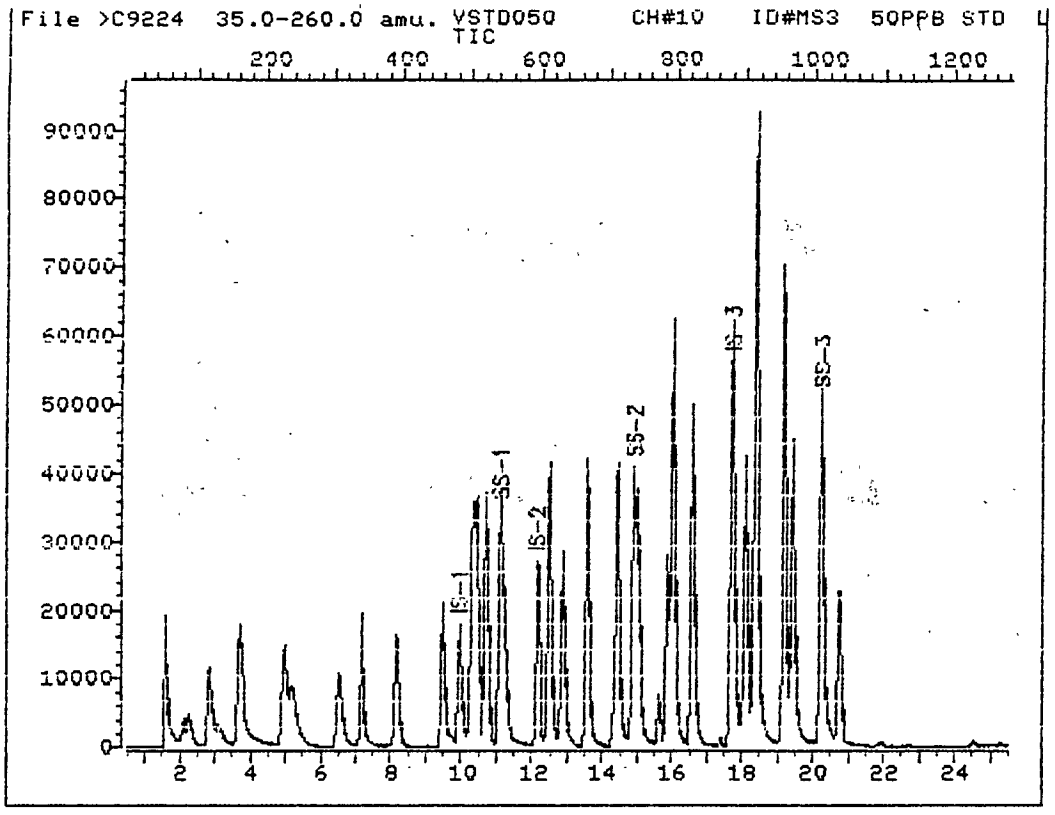


Data File: >C9224::D5 Quant Output File: ^C9224::QT
Name: VSTD050 CH#10 Instrument ID: MS3
Misc: ID#MS3 50PPB STD LOW WATER 5.0ML+IS LH

Id File: V3ID::SC
Title: VOLATILE ANALYSIS CLP-TCL DB624 30Mx0.53IDx3uM ID#MS3
Last Calibration: 910429 11:21 Last Qcal Time: 920131 09:36

Operator ID: VOA2
Quant Time : 920201 10:10
Injected at: 920201 09:44

case # 3916

Operator ID: VOA2 Quant Rev: 7 Quant Time: 920201 10:10
Output File: ^C9224::QT Injected at: 920201 09:44
Data File: >C9224::D5 Dilution Factor: 1.00000
Name: VSTD050 CH#10 Instrument ID: MS3
Misc: ID#MS3 50PPB STD LOW WATER 5.0ML+IS LH

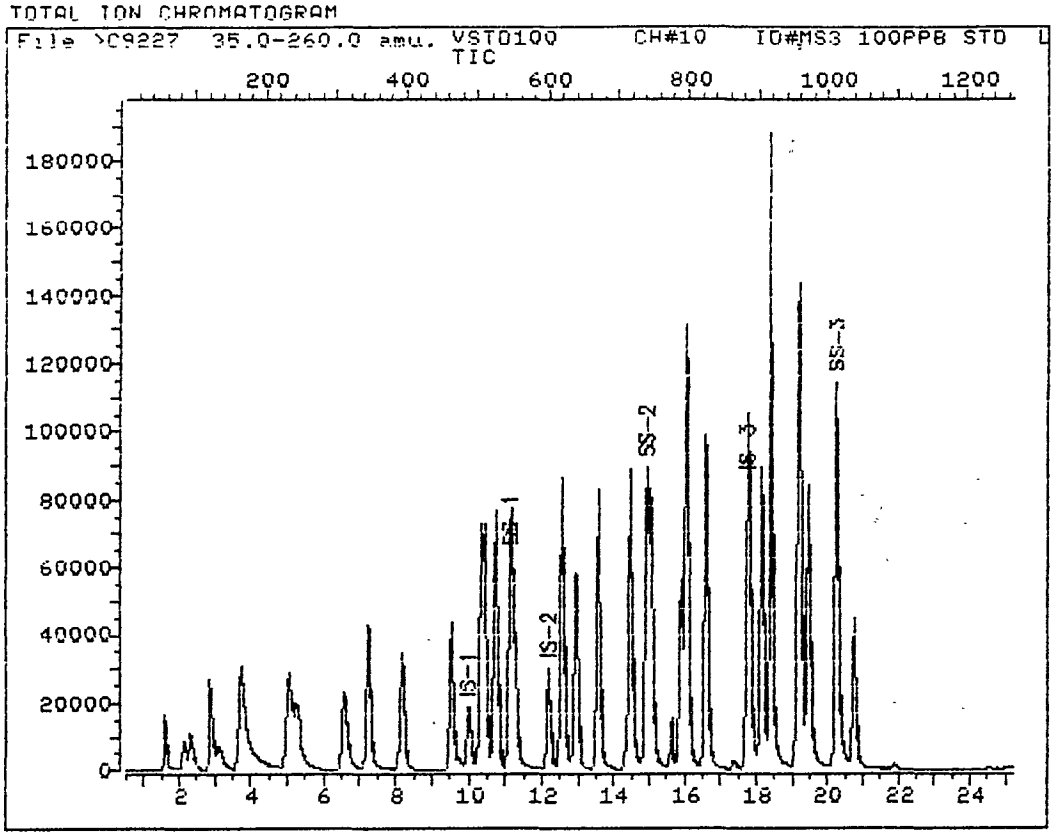
ID File: V3ID::SC
Title: VOLATILE ANALYSIS CLP-TCL DB624 30Mx0.53IDx3uM ID#MS3
Last Calibration: 910429 11:21 Last Qcal Time: 920131 09:36

		Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01	Bromochloromethane	9.93	128.0	23023	50.00	UG/L	93
2)	C010	Chloromethane	2.09	50.0	15715	67.67	UG/L	91
3)	C015	Bromomethane	2.84	94.0	37929	70.81	UG/L	84
4)	C020	Vinyl Chloride	2.27	62.0	21224	70.23	UG/L	96
5)	C025	Chloroethane	3.13	64.0	13549	67.96	UG/L	96
6)	C030	Methylene Chloride	6.51	84.0	29151	69.11	UG/L	81
7)	C035	Acetone	5.51	43.0	3786	30.80	UG/L	66
8)	C040	Carbon Disulfide	5.18	76.0	70216	74.10	UG/L	98
9)	C045	1,1-Dichloroethene	4.94	96.0	32396	61.06	UG/L	93
10)	C050	1,1-Dichloroethane	8.15	63.0	61915	78.79	UG/L	93
11)	C053	1,2-Dichloroethene(total)	9.48	96.0	71521M	155.02	UG/L	93
12)	C060	Chloroform	10.28	83.0	92937	75.71	UG/L	95
13)	CS15	1,2-Dichloroethane-d4	11.10	65.0	56257	63.08	UG/L	92
14)	C065	1,2-Dichloroethane	11.25	62.0	54191	72.53	UG/L	91
15)	C110	2-Butanone	9.71	43.0	5281	32.97	UG/L	89
16)	*CI10	1,4-Difluorobenzene	12.13	114.0	82174	50.00	UG/L	100
17)	C115	1,1,1-Trichloroethane	10.39	97.0	88967M	96.65	UG/L	
18)	C120	Carbon Tetrachloride	10.71	117.0	90903	74.05	UG/L	91
19)	C130	Bromodichloromethane	13.54	83.0	100559	73.43	UG/L	94
20)	C140	1,2-Dichloropropane	12.88	63.0	30042	75.98	UG/L	95
21)	C172	Trans-1,3-Dichloropropene	15.59	75.0	14881	34.08	UG/L	98
22)	C150	Trichloroethene	12.50	130.0	55518	73.05	UG/L	96
23)	C155	Dibromochloromethane	16.59	129.0	100996	59.15	UG/L	86
24)	C160	1,1,2-Trichloroethane	15.89	97.0	33251	53.32	UG/L	92
25)	C165	Benzene	11.12	78.0	70285	71.99	UG/L	100
26)	C143	cis-1,3-Dichloropropene	14.44	75.0	82523	132.85	UG/L	95
27)	C180	Bromoform	19.44	173.0	88256	55.28	UG/L	97
28)	*CI20	Chlorobenzene-d5	17.70	117.0	78307	50.00	UG/L	94
29)	C210	2-Hexanone	16.57	43.0	10146	26.82	UG/L	92
30)	C205	4-Methyl-2-Pentanone	14.89	43.0	18012M	32.84	UG/L	
31)	C220	Tetrachloroethene	16.02	164.0	61722	67.36	UG/L	85
32)	C225	1,1,2,2-Tetrachloroethane	20.71	83.0	43595	39.75	UG/L	92
33)	C230	Toluene	15.01	91.0	94355	67.80	UG/L	96
34)	CS05	Toluene d-8	14.89	98.0	93689	58.91	UG/L	93
35)	C235	Chlorobenzene	17.74	112.0	89657	65.86	UG/L	97
36)	C240	Ethylbenzene	18.09	106.0	35249	68.83	UG/L	99
37)	C245	Styrene	19.19	104.0	78408	68.14	UG/L	81
38)	C250	Total Xylenes	19.13	106.0	49509	72.03	UG/L	96
39)	CS10	Bromofluorobenzene	20.22	95.0	80053	58.64	UG/L	97

* Compound is ISTD

Case # 5910

TOTAL ION CHROMATOGRAM



Data File: >C9227::D5 Quant Output File: ^C9227::QT
Name: VSTD100 CH#10 Instrument ID: MS3
Misc: ID#MS3 100PPB STD LOW WATER 5.0ML+IS LH

Id File: V3ID::SC
Title: VOLATILE ANALYSIS CLP-TCL DB624 30Mx0.53IDx3uM ID#MS3
Last Calibration: 910429 11:21 Last Qcal Time: 920201 09:44

Operator ID: VOA2
Quant Time : 920201 12:12
Injected at: 920201 11:41

case# 3916

Operator ID: VOA2 Quant Rev: 7 Quant Time: 920201 12:12
Output File: ^C9227::QT Injected at: 920201 11:41
Data File: >C9227::D5 Dilution Factor: 1.00000
Name: VSTD100 CH#10 Instrument ID: MS3
Misc: ID#MS3 100PPB STD LOW WATER 5.0ML+IS LH

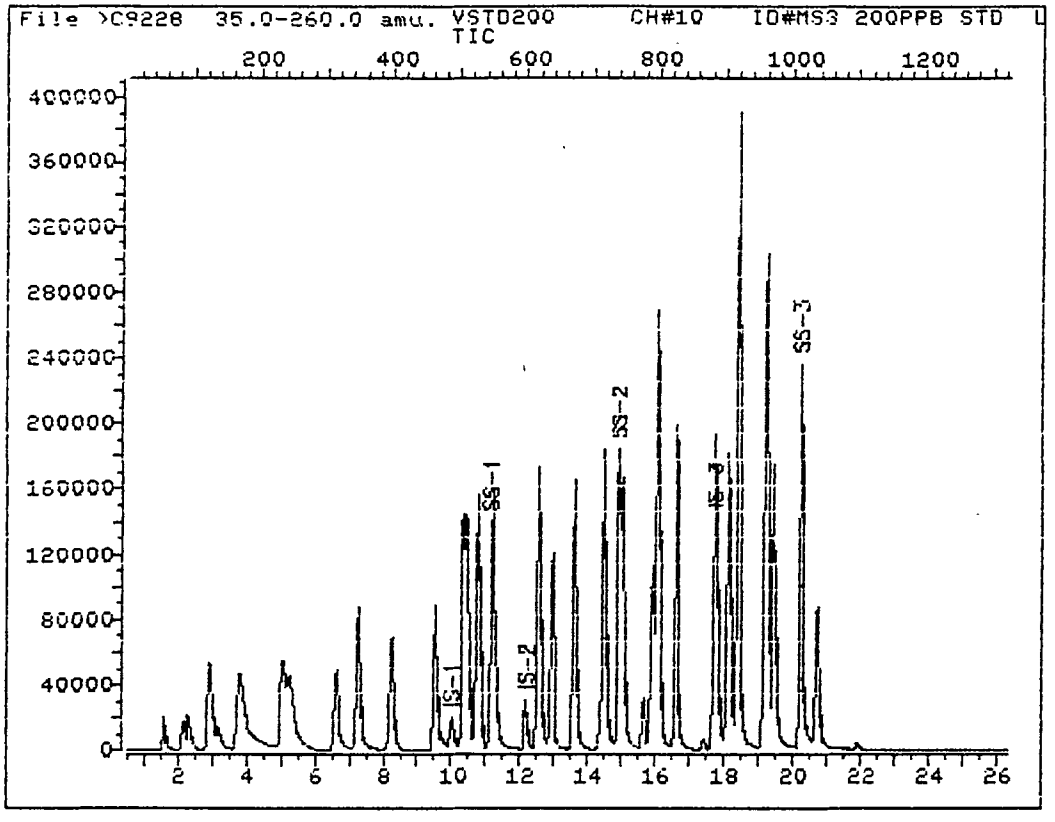
ID File: V3ID::SC
Title: VOLATILE ANALYSIS CLP-TCL DB624 30Mx0.53IDx3uM ID#MS3
Last Calibration: 910429 11:21 Last Qcal Time: 920201 09:44

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	9.95	128.0	24418	50.00	UG/L	86
2)	C010 Chloromethane	2.10	50.0	39705	119.11	UG/L	91
3)	C015 Bromomethane	2.84	94.0	89124	110.78	UG/L	89
4)	C020 Vinyl Chloride	2.29	62.0	51550	114.50	UG/L	98
5)	C025 Chloroethane	3.13	64.0	31700	110.30	UG/L	94
6)	C030 Methylene Chloride	6.53	84.0	63055	101.97	UG/L	82
7)	C035 Acetone	5.44	43.0	5796	72.17	UG/L	74
8)	C040 Carbon Disulfide	5.22	76.0	149415	100.32	UG/L	96
9)	C045 1,1-Dichloroethene	4.99	96.0	70816	103.05	UG/L	90
10)	C050 1,1-Dichloroethane	8.19	63.0	131217	99.91	UG/L	91
11)	C053 1,2-Dichloroethene(total)	9.50	96.0	146747M	387.68	UG/L	93
12)	C060 Chloroform	10.30	83.0	191407	97.09	UG/L	95
13)	CS15 1,2-Dichloroethane-d4	11.10	65.0	110035	92.21	UG/L	92
14)	C065 1,2-Dichloroethane	11.26	62.0	107159	93.22	UG/L	90
15)	C110 2-Butanone	9.74	43.0	8361	74.64	UG/L	85
16)	*CI10 1,4-Difluorobenzene	12.16	114.0	90862	50.00	UG/L	100
17)	C115 1,1,1-Trichloroethane	10.42	97.0	179252M	176.12	UG/L	
18)	C120 Carbon Tetrachloride	10.73	117.0	187129	93.09	UG/L	90
19)	C130 Bromodichloromethane	13.57	83.0	196454	88.34	UG/L	89
20)	C140 1,2-Dichloropropane	12.90	63.0	68584	103.23	UG/L	94
21)	C172 Trans-1,3-Dichloropropene	15.60	75.0	28973	33.46	UG/L	95
22)	C150 Trichloroethene	12.51	130.0	117638	95.82	UG/L	98
23)	C155 Dibromochloromethane	16.58	129.0	198160	88.72	UG/L	86
24)	C160 1,1,2-Trichloroethane	15.89	97.0	67413	91.68	UG/L	91
25)	C165 Benzene	11.16	78.0	149781	96.36	UG/L	100
26)	C143 cis-1,3-Dichloropropene	14.45	75.0	175333	155.64	UG/L	93
27)	C180 Bromoform	19.43	173.0	164071	84.06	UG/L	98
28)	*CI20 Chlorobenzene-d5	17.71	117.0	82394	50.00	UG/L	96
29)	C210 2-Hexanone	16.58	43.0	18661	87.40	UG/L	90
30)	C205 4-Methyl-2-Pentanone	14.90	43.0	31530M	54.64	UG/L	
31)	C220 Tetrachloroethene	16.05	164.0	127654	98.28	UG/L	94
32)	C225 1,1,2,2-Tetrachloroethane	20.70	83.0	84781	92.41	UG/L	92
33)	C230 Toluene	15.01	91.0	204935	103.21	UG/L	92
34)	CS05 Toluene d-8	14.90	98.0	204107	103.52	UG/L	92
35)	C235 Chlorobenzene	17.75	112.0	192044	101.79	UG/L	95
36)	C240 Ethylbenzene	18.10	106.0	74955	101.05	UG/L	96
37)	C245 Styrene	19.20	104.0	162907	98.73	UG/L	83
38)	C250 Total Xylenes	19.14	106.0	98247	94.30	UG/L	98
39)	CS10 Bromofluorobenzene	20.21	95.0	170579	101.26	UG/L	79

* Compound is ISTD

case# 3916 307

TOTAL ION CHROMATOGRAM



Data File: >C9228::D5 Quant Output File: ^C9228::QT
Name: VSTD200 CH#10 Instrument ID: MS3
Misc: ID#MS3 200PPB STD LOW WATER 5.0ML+IS LH

Id File: V3ID::SC
Title: VOLATILE ANALYSIS CLP-TCL DB624 30Mx0.53IDx3uM ID#MS3
Last Calibration: 910429 11:21 Last Qcal Time: 920201 09:44

Operator ID: VOA1
Quant Time : 920201 12:50
Injected at: 920201 12:22

Case# 3916

Operator ID: VOA1 Quant Rev: 7 Quant Time: 920201 12:50
Output File: ^C9228::QT Injected at: 920201 12:22
Data File: >C9228::D5 Dilution Factor: 1.00000
Name: VSTD200 CH#10 Instrument ID: MS3
Misc: ID#MS3 200PPB STD LOW WATER 5.0ML+IS LH

ID File: V3ID::SC
Title: VOLATILE ANALYSIS CLP-TCL DB624 30Mx0.53IDx3uM ID#MS3
Last Calibration: 910429 11:21 Last Qcal Time: 920201 09:44

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	9.99	128.0	24963	50.00	UG/L	80
2)	C010 Chloromethane	2.11	50.0	83505	245.04	UG/L	93
3)	C015 Bromomethane	2.87	94.0	182248	221.58	UG/L	86
4)	C020 Vinyl Chloride	2.29	62.0	107654	233.90	UG/L	97
5)	C025 Chloroethane	3.15	64.0	67115	228.43	UG/L	71
6)	C030 Methylene Chloride	6.59	84.0	130418	206.31	UG/L	78
7)	C035 Acetone	5.53	43.0	11033	134.38	UG/L	73
8)	C040 Carbon Disulfide	5.26	76.0	319318	209.71	UG/L	99
9)	C045 1,1-Dichloroethene	5.06	96.0	146605	208.69	UG/L	92
10)	C050 1,1-Dichloroethane	8.23	63.0	267350	199.12	UG/L	93
11)	C053 1,2-Dichloroethene(total)	9.54	96.0	306398M	791.78	UG/L	92
12)	C060 Chloroform	10.32	83.0	385406	191.23	UG/L	94
13)	CS15 1,2-Dichloroethane-d4	11.14	65.0	220954	181.12	UG/L	95
14)	C065 1,2-Dichloroethane	11.30	62.0	213176	181.40	UG/L	91
15)	C110 2-Butanone	9.75	43.0	16103	140.61	UG/L	89
16)	*CI10 1,4-Difluorobenzene	12.18	114.0	91764	50.00	UG/L	100
17)	C115 1,1,1-Trichloroethane	10.46	97.0	358912	349.17	UG/L	82
18)	C120 Carbon Tetrachloride	10.77	117.0	380936	187.63	UG/L	90
19)	C130 Bromodichloromethane	13.56	83.0	393396	175.16	UG/L	97
20)	C140 1,2-Dichloropropane	12.92	63.0	140223	208.99	UG/L	91
21)	C172 Trans-1,3-Dichloropropene	15.62	75.0	64615	73.88	UG/L	97
22)	C150 Trichloroethene	12.55	130.0	236833	191.00	UG/L	97
23)	C155 Dibromochloromethane	16.59	129.0	399681	177.19	UG/L	87
24)	C160 1,1,2-Trichloroethane	15.91	97.0	133523	179.80	UG/L	92
25)	C165 Benzene	11.18	78.0	318796	203.09	UG/L	100
26)	C143 cis-1,3-Dichloropropene	14.46	75.0	360688	317.03	UG/L	95
27)	C180 Bromoform	19.45	173.0	332196	168.53	UG/L	96
28)	*CI20 Chlorobenzene-d5	17.73	117.0	85949	50.00	UG/L	95
29)	C210 2-Hexanone	16.59	43.0	35303	158.51	UG/L	91
30)	C205 4-Methyl-2-Pentanone	14.91	43.0	64097M	106.48	UG/L	
31)	C220 Tetrachloroethene	16.07	164.0	259167	191.28	UG/L	81
32)	C225 1,1,2,2-Tetrachloroethane	20.72	83.0	169006	176.60	UG/L	91
33)	C230 Toluene	15.03	91.0	423355	204.39	UG/L	95
34)	CS05 Toluene d-8	14.91	98.0	421317	204.86	UG/L	91
35)	C235 Chlorobenzene	17.77	112.0	389185	197.74	UG/L	98
36)	C240 Ethylbenzene	18.12	106.0	156560	202.33	UG/L	95
37)	C245 Styrene	19.22	104.0	347599	201.95	UG/L	84
38)	C250 Total Xylenes	19.18	106.0	206365	189.88	UG/L	98
39)	CS10 Bromofluorobenzene	20.23	95.0	355436	202.26	UG/L	86

* Compound is ISTD

case # 3916

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Instrument ID: MS7 Calibration Date(s): 01/11/92 01/11/92

Heated Purge: (Y/N): N Calibration Times: 1121 1642

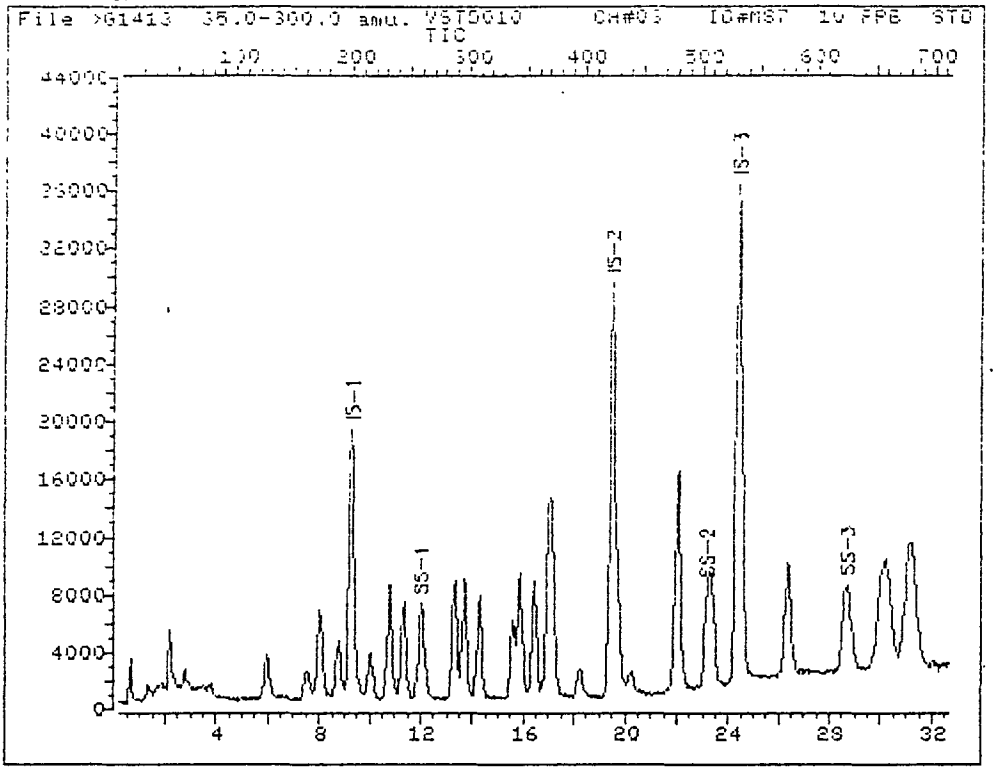
GC Column: SP-1000 ID: 2.50(mm)

LAB FILE ID: RRF10 = G1413 RRF20 = G1408
RRF50= G1406 RRF100= G1412 RRF200= G1410

COMPOUND	RRF10	RRF20	RRF50	RRF100	RRF200	RRF	% RSD
Chloromethane	0.670	0.620	0.560	0.574	0.597	0.604	7.2
Bromomethane *	1.721	1.634	1.457	1.837	1.763	1.682	8.7*
Vinyl Chloride *	0.940	0.958	0.850	0.943	0.914	0.921	4.6*
Chloroethane	0.641	0.611	0.550	0.623	0.597	0.604	5.7
Methylene Chloride	1.421	1.442	1.102	1.185	1.158	1.262	12.5
Acetone	0.401	0.296	0.235	0.276	0.246	0.291	22.7
Carbon Disulfide	2.833	2.861	2.562	2.733	2.696	2.737	4.4
1,1-Dichloroethene *	1.308	1.400	1.147	1.254	1.214	1.265	7.6*
1,1-Dichloroethane *	2.357	2.354	2.081	2.257	2.260	2.262	5.0*
1,2-Dichloroethene (total)	1.452	1.402	1.224	1.334	1.310	1.344	6.5
Chloroform *	3.834	3.972	3.416	3.760	3.714	3.739	5.5*
1,2-Dichloroethane *	2.928	2.947	2.644	2.895	2.883	2.859	4.3*
2-Butanone	0.429	0.432	0.341	0.408	0.384	0.399	9.4
1,1,1-Trichloroethane *	1.126	1.103	1.274	1.070	1.047	1.124	7.9*
Carbon Tetrachloride *	1.084	1.146	1.042	1.128	1.129	1.106	3.8*
Bromodichloromethane *	1.008	0.991	0.914	0.987	0.989	0.978	3.7*
1,2-Dichloropropane	0.356	0.365	0.315	0.353	0.354	0.349	5.6
cis-1,3-Dichloropropene *	0.755	0.736	0.659	0.734	0.736	0.724	5.2*
Trichloroethene *	0.618	0.611	0.530	0.595	0.591	0.589	5.9*
Dibromochloromethane *	0.984	1.056	0.927	1.079	1.108	1.031	7.2*
1,1,2-Trichloroethane *	0.415	0.407	0.368	0.414	0.416	0.404	5.1*
Benzene *	0.887	0.847	0.760	0.840	0.836	0.834	5.5*
trans-1,3-Dichloropropene *	0.776	0.800	0.704	0.784	0.759	0.765	4.8*
Bromoform *	0.823	0.811	0.775	0.938	0.945	0.858	9.1*
4-Methyl-2-Pentanone	0.264	0.255	0.251	0.338	0.296	0.281	13.0
2-Hexanone	0.176	0.149	0.161	0.212	0.201	0.180	14.7
Tetrachloroethene *	0.705	0.655	0.574	0.637	0.613	0.637	7.6*
1,1,2,2-Tetrachloroethane *	0.578	0.548	0.515	0.644	0.606	0.578	8.7*
Toluene *	1.343	1.258	1.108	1.200	1.183	1.218	7.2*
Chlorobenzene *	1.216	1.114	0.980	1.089	1.065	1.093	7.8*
Ethylbenzene *	0.593	0.502	0.432	0.489	0.471	0.497	12.0*
Styrene *	1.248	1.111	0.936	1.074	1.027	1.079	10.6*
Xylene (total) *	0.758	0.659	0.558	0.649	0.614	0.648	11.3*
Toluene-d8	1.220	1.202	1.149	1.237	1.246	1.211	3.2
Bromofluorobenzene	0.899	0.831	0.778	0.876	0.845	0.846	5.5
1,2-Dichloroethane-d4	2.726	2.930	2.752	3.023	3.086	2.903	5.5

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

TOTAL ION CHROMATOGRAM



Data File: >G1413::D7 Quant Output File: ^G1413::QT
Name: VSTD010 CH#03 Instrument ID: MS7
Misc: ID#MS7 10 PPB STD LOW WATER NC 5LEVEL 5.0ML+IS LH

Id File: V7ID::SC
Title: VOLATILE ANALYSIS 45(3)-220(15) 8 FT SP1000 ID=MS7
Last Calibration: 910703 01:53 Last Qcal Time: 920111 11:21

Operator ID: VOA7
Quant Time : 920111 17:16
Injected at: 920111 16:42

case#3916

Operator ID: VOA7 Quant Rev: 7 Quant Time: 920111 17:16
Output File: ^G1413::QT Injected at: 920111 16:42
Data File: ^G1413::D7 Dilution Factor: 1.00000
Name: VSTD010 CH#03 Instrument ID: MS7
Misc: ID#MS7 10 PPB STD LOW WATER NC 5LEVEL 5.0ML+IS LH

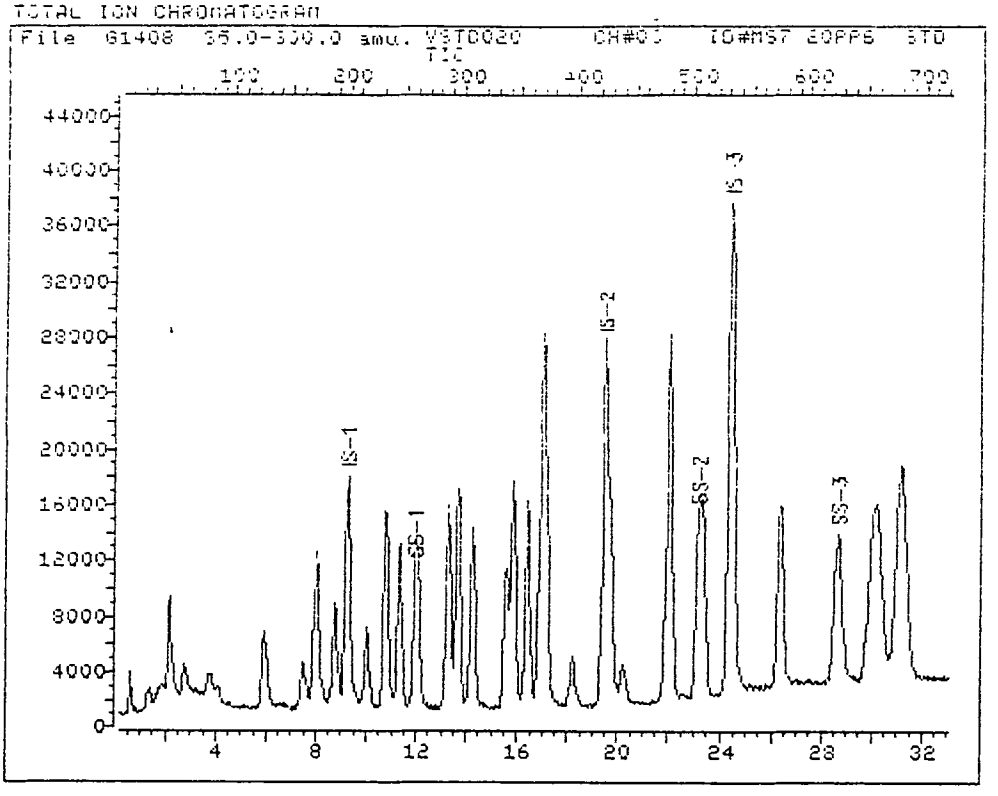
ID File: V7ID::SC
Title: VOLATILE ANALYSIS 45(3)-220(15) 8 FT SP1000 ID=MS7
Last Calibration: 910703 01:33 Last Qcal Time: 920111 11:21

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	9.24	128.0	42290	50.00	UG/L	72
2)	C010 Chloromethane	1.36	50.0	5668	11.96	UG/L	80
3)	C015 Bromomethane	2.18	94.0	14553	11.81	UG/L	88
4)	C020 Vinyl Chloride	2.77	62.0	7947	11.06	UG/L	92
5)	C025 Chloroethane	3.77	64.0	5419	11.65	UG/L	93
6)	C030 Methylene Chloride	5.96	84.0	12018	12.89	UG/L	80
7)	C035 Acetone	6.60	43.0	3391	17.03	UG/L	88
8)	C040 Carbon Disulfide	7.51	76.0	23961	11.06	UG/L	97
9)	C045 1,1-Dichloroethene	8.74	96.0	11061	11.40	UG/L	92
10)	C050 1,1-Dichloroethane	10.02	63.0	19939	11.33	UG/L	94
11)	C053 1,2-Dichloroethene(TOTAL)	10.75	96.0	24570	23.73	UG/L	93
12)	C060 Chloroform	11.34	83.0	32428	11.22	UG/L	96
13)	CS15 1,2-Dichloroethane-d4	11.98	65.0	23054	9.91	UG/L	85
14)	C065 1,2-Dichloroethane	12.07	62.0	24763	11.08	UG/L	90
15)	C110 2-Butanone	11.98	43.0	3625M	12.56	UG/L	
16)	*CI10 1,4-Difluorobenzene	19.46	114.0	159241	50.00	UG/L	93
17)	C115 1,1,1-Trichloroethane	13.30	97.0	35855M	8.84	UG/L	
18)	C120 Carbon Tetrachloride	13.67	117.0	34538	10.41	UG/L	97
19)	C130 Bromodichloromethane	14.26	83.0	32120	11.03	UG/L	97
20)	C140 1,2-Dichloropropane	15.54	63.0	11337	11.29	UG/L	96
21)	C172 Trans-1,3-Dichloropropene	17.18	75.0	9880M	1.18	UG/L	99
22)	C150 Trichloroethene	16.40	130.0	19682	11.66	UG/L	96
23)	C155 Dibromochloromethane	17.04	129.0	31323	10.61	UG/L	85
24)	C160 1,1,2-Trichloroethane	17.13	97.0	13203	11.26	UG/L	92
25)	C165 Benzene	16.91	78.0	28240	11.67	UG/L	100
26)	C143 cis-1,3-Dichloropropene	15.86	75.0	38460	18.31	UG/L	98
27)	C180 Bromoform	19.69	173.0	26225	10.62	UG/L	98
28)	*CI20 Chlorobenzene-d5	24.39	117.0	143638	50.00	UG/L	96
29)	C210 2-Hexanone	21.83	43.0	5042	10.87	UG/L	80
30)	C205 4-Methyl-2-Pentanone	20.24	43.0	7596	10.52	UG/L	71
31)	C220 Tetrachloroethene	22.06	164.0	20249	12.28	UG/L	91
32)	C225 1,1,2,2-Tetrachloroethane	22.01	83.0	16607M	11.23	UG/L	
33)	C230 Toluene	23.34	91.0	38588	12.12	UG/L	83
34)	CS05 Toluene d-8	23.15	98.0	35048	10.62	UG/L	98
35)	C235 Chlorobenzene	24.48	112.0	34940	12.42	UG/L	97
36)	C240 Ethylbenzene	26.35	106.0	17033	13.71	UG/L	97
37)	C245 Styrene	30.00	104.0	35861	13.34	UG/L	71
38)	C250 Total Xylenes	30.23	106.0	21780M	13.60	UG/L	73
39)	CS10 Bromofluorobenzene	28.68	95.0	25840	11.57	UG/L	93

* Compound is ISTD

case# 3916

TOTAL ION CHROMATOGRAM



Data File: >G1408::D7 Quant Output File: ^G1408::QT
Name: VSTD020 CH#03 Instrument ID: MS7
Misc: ID#MS7 20PPB STD LOW WATER NC 5LEVEL 5.0ML+IS LH

Id File: V7ID::SC
Title: VOLATILE ANALYSIS 45(3)-220(15) 8 FT SP1000 ID=MS7
Last Calibration: 910703 01:53 Last Qcal Time: 920111 11:21

Operator ID: VOA7
Quant Time : 920111 13:30
Injected at: 920111 12:42

Case #1 3916

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QUANT REPORT

Operator ID: VOA7 Quant Rev: 7 Quant Time: 920111 13:30
Output File: `G1408::QT Injected at: 920111 12:42
Data File: :G1408::D7 Dilution Factor: 1.00000
Name: VSTD020 CH#03 Instrument ID: MS7
Misc: ID#MS7 20PPB STD LOW WATER NC 5LEVEL 5.0ML+IS LH

ID File: V7ID::SC
Title: VOLATILE ANALYSIS 45(3)-220(15) 8 FT SP1000 ID=MS7
Last Calibration: 910703 01:53 Last Qcal Time: 920111 11:21

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	9.25	128.0	37928	50.00	UG/L	70
2)	C010 Chloromethane	1.35	50.0	9409	22.13	UG/L	93
3)	C015 Bromomethane	2.18	94.0	24798	22.44	UG/L	86
4)	C020 Vinyl Chloride	2.77	62.0	14536	22.55	UG/L	91
5)	C025 Chloroethane	3.77	64.0	9276	22.23	UG/L	91
6)	C030 Methylene Chloride	5.92	84.0	21883	26.17	UG/L	77
7)	C035 Acetone	6.60	43.0	4489	25.14	UG/L	98
8)	C040 Carbon Disulfide	7.47	76.0	43411	22.34	UG/L	97
9)	C045 1,1-Dichloroethene	8.74	96.0	21235	24.40	UG/L	89
10)	C050 1,1-Dichloroethane	10.02	63.0	35716	22.62	UG/L	93
11)	C053 1,2-Dichloroethene(TOTAL)	10.75	96.0	42534	45.80	UG/L	96
12)	C060 Chloroform	11.34	83.0	60262	23.26	UG/L	96
13)	CS15 1,2-Dichloroethane-d4	11.94	65.0	44453	21.30	UG/L	91
14)	C065 1,2-Dichloroethane	12.07	62.0	44714	22.30	UG/L	89
15)	C110 2-Butanone	11.98	43.0	6558	25.34	UG/L	85
16)	*CI10 1,4-Difluorobenzene	19.46	114.0	145135	50.00	UG/L	95
17)	C115 1,1,1-Trichloroethane	13.30	97.0	64009	17.31	UG/L	80
18)	C120 Carbon Tetrachloride	13.67	117.0	66522	21.99	UG/L	97
19)	C130 Bromodichloromethane	14.26	83.0	57507	21.68	UG/L	98
20)	C140 1,2-Dichloropropane	15.59	63.0	21207	23.18	UG/L	97
21)	C172 Trans-1,3-Dichloropropene	17.14	75.0	18586M	2.43	UG/L	99
22)	C150 Trichloroethene	16.41	130.0	35459	23.06	UG/L	98
23)	C155 Dibromochloromethane	17.00	129.0	61332	22.78	UG/L	85
24)	C160 1,1,2-Trichloroethane	17.14	97.0	23634	22.11	UG/L	91
25)	C165 Benzene	16.91	78.0	49187	22.29	UG/L	100
26)	C143 cis-1,3-Dichloropropene	15.86	75.0	68397	35.73	UG/L	98
27)	C180 Bromoform	19.69	173.0	47076	20.92	UG/L	98
28)	*CI20 Chlorobenzene-d5	24.39	117.0	131870	50.00	UG/L	97
29)	C210 2-Hexanone	21.84	43.0	7863	18.47	UG/L	92
30)	C205 4-Methyl-2-Pentanone	20.24	43.0	13439	20.27	UG/L	75
31)	C220 Tetrachloroethene	22.06	164.0	34563	22.83	UG/L	90
32)	C225 1,1,2,2-Tetrachloroethane	22.02	83.0	28918M	21.30	UG/L	
33)	C230 Toluene	23.34	91.0	66328	22.70	UG/L	82
34)	CS05 Toluene d-8	23.16	98.0	63419	20.93	UG/L	98
35)	C235 Chlorobenzene	24.48	112.0	58771	22.75	UG/L	99
36)	C240 Ethylbenzene	26.35	106.0	26457	23.20	UG/L	96
37)	C245 Styrene	30.00	104.0	58598	23.74	UG/L	67
38)	C250 Total Xylenes	30.28	106.0	34758M	23.63	UG/L	73
39)	CS10 Bromofluorobenzene	28.68	95.0	43822	21.37	UG/L	93

* Compound is ISTD

Case# 3916

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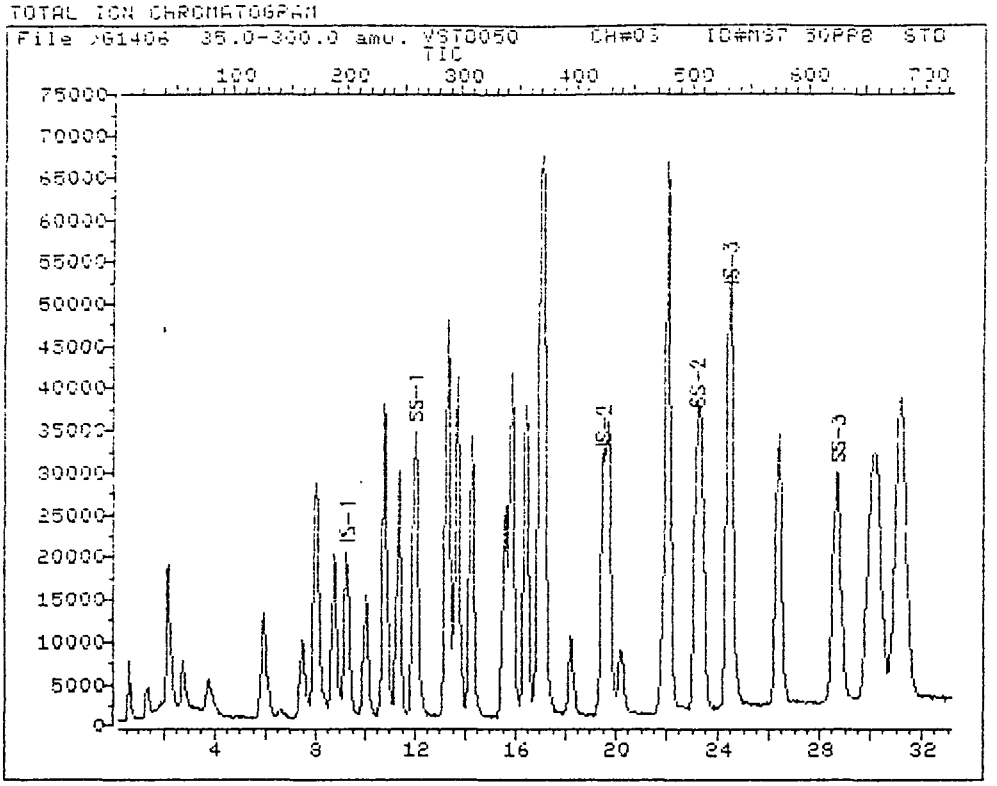
TOTAL ION CHROMATOGRAM



Data File: >G1406::D7 Quant Output File: ^G1406::QT
Name: VSTD050 CH#03 Instrument ID: MS7
Misc: ID#MS7 50PPB STD LOW WATER NC 5LEVEL 5.0ML+IS LH

Id File: V7ID::SC
Title: VOLATILE ANALYSIS 45(3)-220(15) 8 FT SP1000 ID=MS7
Last Calibration: 910703 01:53 Last Qcal Time: 920106 11:39

Operator ID: VOA7
Quant Time : 920111 11:56
Injected at: 920111 11:21

case #3916

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Operator ID: VOA7 Quant Rev: 7 Quant Time: 920111 11:56
Output File: ^G1406::QT Injected at: 920111 11:21
Data File: ^G1406::D7 Dilution Factor: 1.00000
Name: VSTD050 CH#03 Instrument ID: MS7
Misc: ID#MS7 50PPB STD LOW WATER NC 5LEVEL 5.0ML+IS LH

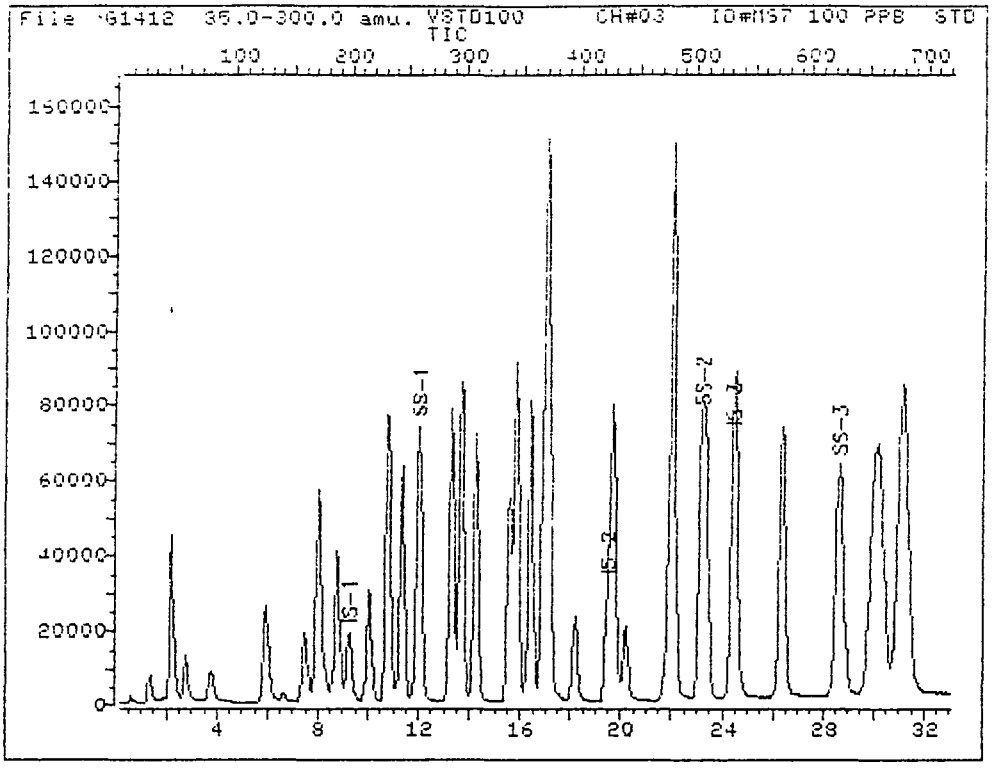
ID File: V7ID::SC
Title: VOLATILE ANALYSIS 45(3)-220(15) 8 FT SP1000 ID=MS7
Last Calibration: 910703 01:53 Last Qcal Time: 920106 11:59

		Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01	Bromochloromethane	9.24	128.0	43405M	50.00	UG/L	
2)	C010	Chloromethane	1.35	50.0	24327	43.68	UG/L	93
3)	C015	Bromomethane	2.18	94.0	63227	35.46	UG/L	84
4)	C020	Vinyl Chloride	2.72	62.0	36879	36.88	UG/L	90
5)	C025	Chloroethane	3.77	64.0	23880	37.32	UG/L	98
6)	C030	Methylene Chloride	5.92	84.0	47843	41.98	UG/L	80
7)	C035	Acetone	6.60	43.0	10218	31.91	UG/L	99
8)	C040	Carbon Disulfide	7.47	76.0	111199	44.12	UG/L	98
9)	C045	1,1-Dichloroethene	8.74	96.0	49805	42.89	UG/L	90
10)	C050	1,1-Dichloroethane	10.02	63.0	90340	45.54	UG/L	93
11)	C053	1,2-Dichloroethene(TOTAL)	10.75	96.0	106285	89.91	UG/L	98
12)	C060	Chloroform	11.34	83.0	148267	40.47	UG/L	94
13)	CS15	1,2-Dichloroethane-d4	11.98	65.0	119433	38.12	UG/L	87
14)	C065	1,2-Dichloroethane	12.07	62.0	114739	41.65	UG/L	90
15)	C110	2-Butanone	11.98	43.0	14807	46.71	UG/L	88
16)	*CI10	1,4-Difluorobenzene	19.46	114.0	160668	50.00	UG/L	94
17)	C115	1,1,1-Trichloroethane	13.30	97.0	204690	34.56	UG/L	80
18)	C120	Carbon Tetrachloride	13.67	117.0	167435	37.95	UG/L	96
19)	C130	Bromodichloromethane	14.26	83.0	146854	40.60	UG/L	97
20)	C140	1,2-Dichloropropane	15.58	63.0	50644	46.04	UG/L	99
21)	C172	Trans-1,3-Dichloropropene	17.14	75.0	45268M	4.93	UG/L	97
22)	C150	Trichloroethene	16.41	130.0	85127	47.65	UG/L	98
23)	C155	Dibromochloromethane	17.00	129.0	149003	44.76	UG/L	85
24)	C160	1,1,2-Trichloroethane	17.14	97.0	59178	47.85	UG/L	94
25)	C165	Benzene	16.91	78.0	122116	43.61	UG/L	100
26)	C143	cis-1,3-Dichloropropene	15.86	75.0	169514	73.90	UG/L	99
27)	C180	Bromoform	19.69	173.0	124532	49.47	UG/L	98
28)	*CI20	Chlorobenzene-d5	24.39	117.0	143494	50.00	UG/L	96
29)	C210	2-Hexanone	21.79	43.0	23159	44.25	UG/L	89
30)	C205	4-Methyl-2-Pentanone	20.19	43.0	36073	42.24	UG/L	72
31)	C220	Tetrachloroethene	22.02	164.0	82362	46.06	UG/L	91
32)	C225	1,1,2,2-Tetrachloroethane	21.97	83.0	73882M	46.49	UG/L	
33)	C230	Toluene	23.34	91.0	159004	45.83	UG/L	81
34)	CS05	Toluene d-8	23.16	98.0	164878	47.36	UG/L	99
35)	C235	Chlorobenzene	24.48	112.0	140558	48.95	UG/L	97
36)	C240	Ethylbenzene	26.35	106.0	62049	47.17	UG/L	95
37)	C245	Styrene	29.96	104.0	134278	48.88	UG/L	70
38)	C250	Total Xylenes	30.23	106.0	80019M	47.02	UG/L	71
39)	CS10	Bromofluorobenzene	28.68	95.0	111586	40.47	UG/L	95

* Compound is ISTD

case# 3916

TOTAL ION CHROMATOGRAM



Data File: >G1412::D7 Quant Output File: ^G1412::QT
Name: VSTD100 CH#03 Instrument ID: MS7
Misc: ID#MS7 100 PPB STD LOW WATER NC 5LEVEL 5.0ML+IS LH

Id File: V7ID::SC
Title: VOLATILE ANALYSIS 45(3)-220(15) 8 FT SP1000 ID=MS7
Last Calibration: 910703 01:53 Last Qcal Time: 920111 11:21

Operator ID: VOA7
Quant Time : 920111 16:29
Injected at: 920111 15:53

case#3916

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Operator ID: VOA7 Quant Rev: 7 Quant Time: 920111 16:29
Output File: ^G1412::QT Injected at: 920111 15:53
Data File: ^G1412::D7 Dilution Factor: 1.00000
Name: VSTD100 CH#03 Instrument ID: MS7
Misc: ID#MS7 100 PPB STD LOW WATER NC 3LEVEL 5.0ML+IS LH

ID File: V7ID::SC
Title: VOLATILE ANALYSIS 45(3)-220(15) 8 FT SP1000 ID=MS7
Last Calibration: 910703 01:53 Last Qcal Time: 920111 11:21

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	9.24	128.0	43278M	50.00	UG/L	
2)	C010 Chloromethane	1.35	50.0	49672	102.39	UG/L	90
3)	C015 Bromomethane	2.18	94.0	159030	126.13	UG/L	87
4)	C020 Vinyl Chloride	2.77	62.0	81604	110.96	UG/L	92
5)	C025 Chloroethane	3.77	64.0	53903	113.19	UG/L	94
6)	C030 Methylene Chloride	5.91	84.0	102560	107.50	UG/L	79
7)	C035 Acetone	6.64	43.0	23931	117.45	UG/L	89
8)	C040 Carbon Disulfide	7.46	76.0	236540	106.67	UG/L	98
9)	C045 1,1-Dichloroethene	8.74	96.0	108513	109.26	UG/L	89
10)	C050 1,1-Dichloroethane	10.02	63.0	195395	108.46	UG/L	91
11)	C053 1,2-Dichloroethene(TOTAL)	10.75	96.0	230958	217.94	UG/L	94
12)	C060 Chloroform	11.34	83.0	325407	110.06	UG/L	98
13)	CS15 1,2-Dichloroethane-d4	11.98	65.0	261646	109.86	UG/L	89
14)	C065 1,2-Dichloroethane	12.07	62.0	250544	109.50	UG/L	91
15)	C110 2-Butanone	11.98	43.0	35332	119.66	UG/L	91
16)	*CI10 1,4-Difluorobenzene	19.46	114.0	159182	50.00	UG/L	94
17)	C115 1,1,1-Trichloroethane	13.30	97.0	340521	83.96	UG/L	80
18)	C120 Carbon Tetrachloride	13.67	117.0	359251	108.28	UG/L	97
19)	C130 Bromodichloromethane	14.26	83.0	314147	107.96	UG/L	98
20)	C140 1,2-Dichloropropane	15.58	63.0	112349	111.96	UG/L	97
21)	C172 Trans-1,3-Dichloropropene	17.14	75.0	99896M	11.90	UG/L	98
22)	C150 Trichloroethene	16.40	130.0	189445	112.31	UG/L	98
23)	C155 Dibromochloromethane	17.00	129.0	343468	116.33	UG/L	86
24)	C160 1,1,2-Trichloroethane	17.14	97.0	131950	112.53	UG/L	91
25)	C165 Benzene	16.91	78.0	267294	110.46	UG/L	100
26)	C143 cis-1,3-Dichloropropene	15.86	75.0	373984	178.14	UG/L	99
27)	C180 Bromoform	19.69	173.0	298697	121.05	UG/L	98
28)	*CI20 Chlorobenzene-d5	24.39	117.0	145893	50.00	UG/L	96
29)	C210 2-Hexanone	21.79	43.0	61770	131.17	UG/L	88
30)	C205 4-Methyl-2-Pentanone	20.19	43.0	98639	134.47	UG/L	74
31)	C220 Tetrachloroethene	22.06	164.0	185995	111.06	UG/L	92
32)	C225 1,1,2,2-Tetrachloroethane	22.02	83.0	187963M	125.11	UG/L	
33)	C230 Toluene	23.34	91.0	350037	108.26	UG/L	80
34)	CS05 Toluene d-8	23.16	98.0	361030	107.68	UG/L	98
35)	C235 Chlorobenzene	24.48	112.0	317657	111.14	UG/L	99
36)	C240 Ethylbenzene	26.35	106.0	142556	112.98	UG/L	95
37)	C245 Styrene	29.96	104.0	313344	114.76	UG/L	69
38)	C250 Total Xylenes	30.23	106.0	189450M	116.43	UG/L	72
39)	CS10 Bromofluorobenzene	28.63	95.0	255658	112.67	UG/L	94

* Compound is ISTD

case # 3916

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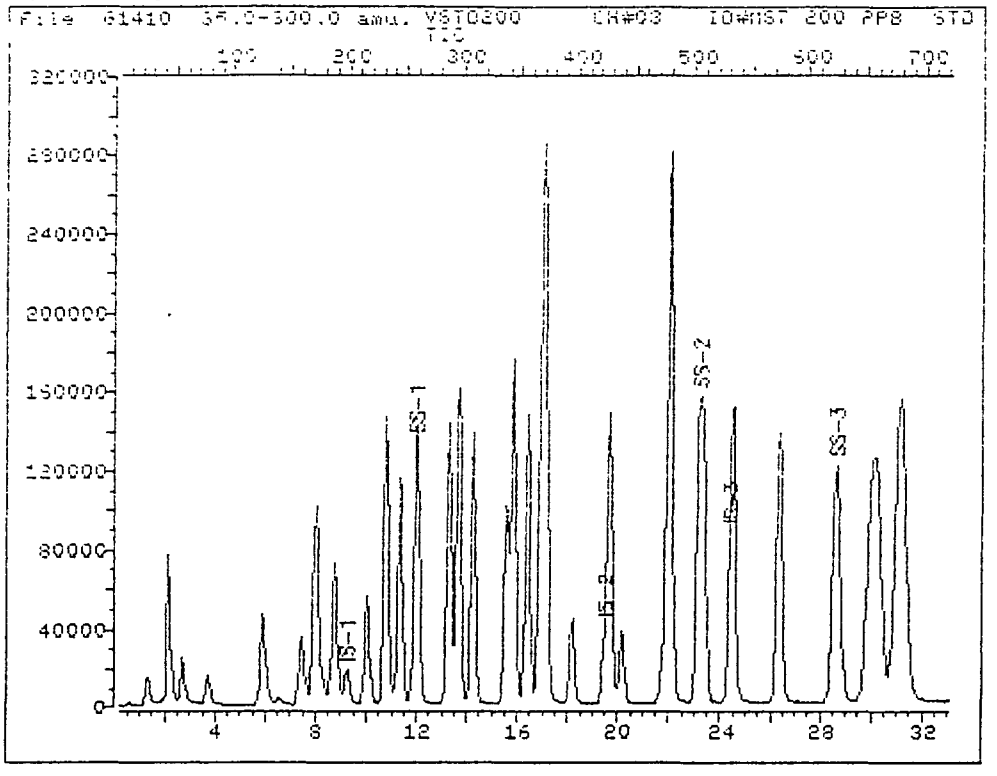
JJ

TOTAL ION CHROMATOGRAM



Data File: >G1410::D7 Quant Output File: ^G1410::QT
Name: VSTD200 CH#03 Instrument ID: MS7
Misc: ID#MS7 200 PPB STD LOW WATER NC 5LEVEL 5.0ML+IS LH

Id File: V7ID::SC
Title: VOLATILE ANALYSIS 45(3)-220(15) 8 FT SP1000 ID=MS7
Last Calibration: 910703 01:53 Last Qcal Time: 920111 11:21

Operator ID: VOA7
Quant Time : 920111 14:44
Injected at: 920111 14:03

case # 3 9/4

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Operator ID: V047 Quant Rev: 7 Quant Time: 920111 14:44
Output File: ^G1410::QT Injected at: 920111 14:03
Data File: G1410::D7 Dilution Factor: 1.00000
Name: VSTD200 CH#03 Instrument ID: MS7
Misc: ID#MS7 200 PPB STD LOW WATER NC 5LEVEL 5.0ML+IS LH

ID File: V7ID::SC
Title: VOLATILE ANALYSIS 45(3)-220(15) 8 FT SP1000 ID=MS7
Last Calibration: 910703 01:53 Last Qcal Time: 920111 11:21

		Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01	Bromochloromethane	9.20	128.0	40675M	50.00	UG/L	
2)	C010	Chloromethane	1.31	50.0	97195	213.18	UG/L	89
3)	C015	Bromomethane	2.13	94.0	286844	242.06	UG/L	86
4)	C020	Vinyl Chloride	2.68	62.0	148680	215.11	UG/L	92
5)	C025	Chloroethane	3.68	64.0	97085	216.92	UG/L	93
6)	C030	Methylene Chloride	5.87	84.0	188326	210.03	UG/L	78
7)	C035	Acetone	6.55	43.0	39976	208.74	UG/L	94
8)	C040	Carbon Disulfide	7.42	76.0	438565	210.43	UG/L	99
9)	C045	1,1-Dichloroethene	8.70	96.0	197531	211.61	UG/L	90
10)	C050	1,1-Dichloroethane	10.02	63.0	367780	217.22	UG/L	93
11)	C053	1,2-Dichloroethene(TOTAL)	10.75	96.0	426275	427.99	UG/L	97
12)	C060	Chloroform	11.30	83.0	604202	217.43	UG/L	96
13)	CS15	1,2-Dichloroethane-d4	11.94	65.0	502160	224.34	UG/L	86
14)	C065	1,2-Dichloroethane	12.03	62.0	469041	218.11	UG/L	91
15)	C110	2-Butanone	11.94	43.0	62490	225.18	UG/L	87
16)	*CI10	1,4-Difluorobenzene	19.47	114.0	150142	50.00	UG/L	94
17)	C115	1,1,1-Trichloroethane	13.26	97.0	628578	164.31	UG/L	80
18)	C120	Carbon Tetrachloride	13.67	117.0	677926	216.64	UG/L	97
19)	C130	Bromodichloromethane	14.22	83.0	593873	216.37	UG/L	97
20)	C140	1,2-Dichloropropane	15.54	63.0	212353	224.35	UG/L	97
21)	C172	Trans-1,3-Dichloropropene	17.09	75.0	182215M	23.01	UG/L	99
22)	C150	Trichloroethene	16.36	130.0	355160	223.23	UG/L	97
23)	C155	Dibromochloromethane	17.00	129.0	665312	238.91	UG/L	84
24)	C160	1,1,2-Trichloroethane	17.09	97.0	250001	226.04	UG/L	92
25)	C165	Benzene	16.87	78.0	501982	219.94	UG/L	100
26)	C143	cis-1,3-Dichloropropene	15.82	75.0	707394	357.25	UG/L	98
27)	C180	Bromoform	19.65	173.0	567756	243.94	UG/L	98
28)	*CI20	Chlorobenzene-d5	24.35	117.0	143068	50.00	UG/L	98
29)	C210	2-Hexanone	21.75	43.0	114834	248.66	UG/L	86
30)	C205	4-Methyl-2-Pentanone	20.15	43.0	169623	235.81	UG/L	74
31)	C220	Tetrachloroethene	22.02	164.0	350529	213.43	UG/L	90
32)	C225	1,1,2,2-Tetrachloroethane	21.98	83.0	346738M	235.36	UG/L	
33)	C230	Toluene	23.35	91.0	676859	213.48	UG/L	81
34)	CS05	Toluene d-8	23.17	98.0	712934	216.84	UG/L	99
35)	C235	Chlorobenzene	24.49	112.0	609492	217.46	UG/L	98
36)	C240	Ethylbenzene	26.36	106.0	269777	218.04	UG/L	94
37)	C245	Styrene	29.97	104.0	587788	219.52	UG/L	69
38)	C250	Total Xylenes	30.24	106.0	351539M	220.31	UG/L	73
39)	CS10	Bromofluorobenzene	28.64	95.0	483612	217.34	UG/L	95

* Compound is ISTD

case # 3916

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Instrument ID: MS2 Calibration date: 02/03/92 Time: 1658

Lab File ID: BC238 Init. Calib. Date(s): 01/06/92 01/06/92

Heated Purge: (Y/N) N Init. Calib. Times: 1032 1514

GC Column: DB-624 ID: 0.530(mm)

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX %D
Chloromethane	0.608	0.487		19.9	
Bromomethane	1.163	0.929	0.100	20.1	25.0
Vinyl Chloride	1.206	0.689	0.100	42.9	25.0
Chloroethane	0.590	0.527		10.7	
Methylene Chloride	1.499	1.163		22.4	
Acetone	0.496	0.629		-26.8	
Carbon Disulfide	3.470	2.078		40.1	
1,1-Dichloroethene	1.264	0.848	0.100	32.9	25.0
1,1-Dichloroethane	2.490	1.696	0.200	31.9	25.0
1,2-Dichloroethene (total)	1.458	1.067		26.8	
Chloroform	3.147	2.391	0.200	24.0	25.0
1,2-Dichloroethane	2.136	1.787	0.100	16.3	25.0
2-Butanone	0.860	0.725		15.7	
1,1,1-Trichloroethane	0.644	0.513	0.100	20.3	25.0
Carbon Tetrachloride	0.552	0.486	0.100	12.0	25.0
Bromodichloromethane	0.776	0.646	0.200	16.8	25.0
1,2-Dichloropropane	0.360	0.276		23.3	
cis-1,3-Dichloropropene	0.617	0.499	0.200	19.1	25.0
Trichloroethene	0.441	0.379	0.300	14.1	25.0
Dibromochloromethane	0.724	0.682	0.100	5.8	25.0
1,1,2-Trichloroethane	0.382	0.314	0.100	17.8	25.0
Benzene	0.851	0.665	0.500	21.9	25.0
trans-1,3-Dichloropropene	0.554	0.433	0.100	21.8	25.0
Bromoform	0.717	0.736	0.100	-2.6	25.0
4-Methyl-2-Pentanone	0.615	0.466		24.2	
2-Hexanone	0.464	0.369		20.5	
Tetrachloroethene	0.500	0.436	0.200	12.8	25.0
1,1,2,2-Tetrachloroethane	1.028	0.849	0.500	17.4	25.0
Toluene	1.196	0.916	0.400	23.4	25.0
Chlorobenzene	0.958	0.818	0.500	14.6	25.0
Ethylbenzene	0.404	0.333	0.100	17.6	25.0
Styrene	0.898	0.793	0.300	11.7	25.0
Xylene (total)	0.480	0.427	0.300	11.0	25.0
Toluene-d8	1.110	1.067		3.9	
Bromofluorobenzene	0.920	0.917	0.200	0.3	25.0
1,2-Dichloroethane-d4	2.258	1.991		11.8	

All other compounds must meet a minimum RRF of 0.010.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Instrument ID: MS3 Calibration date: 02/04/92 Time: 1240

Lab File ID: C9248 Init. Calib. Date(s): 02/01/92 02/01/92

Heated Purge: (Y/N) N Init. Calib. Times: 0944 1817

GC Column: DB-624 ID: 0.530(mm)

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX %D
Chloromethane	0.753	0.667		11.4	
Bromomethane	1.677	1.724	0.100	-2.8	25.0
Vinyl Chloride	0.980	0.909	0.100	7.2	25.0
Chloroethane	0.594	0.573		3.5	
Methylene Chloride	1.298	1.227		5.5	
Acetone	0.131	0.122		6.9	
Carbon Disulfide	2.906	2.754		5.2	
1,1-Dichloroethene	1.400	1.476	0.100	-5.4	25.0
1,1-Dichloroethane	2.649	2.755	0.200	-4.0	25.0
1,2-Dichloroethene (total)	1.443	1.439		0.3	
Chloroform	3.912	4.318	0.200	-10.4	25.0
1,2-Dichloroethane	2.116	2.308	0.100	-9.1	25.0
2-Butanone	0.182	0.139		23.6	
1,1,1-Trichloroethane	0.961	0.948	0.100	1.4	25.0
Carbon Tetrachloride	0.983	1.043	0.100	-6.1	25.0
Bromodichloromethane	1.050	0.995	0.200	5.2	25.0
1,2-Dichloropropane	0.372	0.317		14.8	
cis-1,3-Dichloropropene	0.580	0.484	0.200	16.6	25.0
Trichloroethene	0.644	0.588	0.300	8.7	25.0
Dibromochloromethane	1.085	0.996	0.100	8.2	25.0
1,1,2-Trichloroethane	0.368	0.313	0.100	15.0	25.0
Benzene	0.811	0.696	0.500	14.2	25.0
trans-1,3-Dichloropropene	0.404	0.388	0.100	4.0	25.0
Bromoform	0.870	0.690	0.100	20.7	25.0
4-Methyl-2-Pentanone	0.189	0.138		27.0	
2-Hexanone	0.107	0.079		26.2	
Tetrachloroethene	0.766	0.743	0.200	3.0	25.0
1,1,2,2-Tetrachloroethane	0.494	0.420	0.500	15.0	25.0
Toluene	1.172	1.106	0.400	5.6	25.0
Chlorobenzene	1.121	1.089	0.500	2.9	25.0
Ethylbenzene	0.432	0.412	0.100	4.6	25.0
Styrene	0.923	0.844	0.300	8.6	25.0
Xylene (total)	0.582	0.507	0.300	12.9	25.0
Toluene-d8	1.123	1.011		10.0	
Bromofluorobenzene	0.955	0.896	0.200	6.2	25.0
1,2-Dichloroethane-d4	2.123	2.152		-1.4	

All other compounds must meet a minimum RRF of 0.010.

FORM VII VOA 3/90

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Instrument ID: MS3 Calibration date: 02/05/92 Time: 2145

Lab File ID: C9267 Init. Calib. Date(s): 02/01/92 02/01/92

Heated Purge: (Y/N) N Init. Calib. Times: 0944 1817

GC Column: DB-624 ID: 0.530(mm)

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX %D
Chloromethane	0.753	0.731		2.9	
Bromomethane	1.677	1.782	0.100	-6.3	25.0
Vinyl Chloride	0.980	0.974	0.100	0.6	25.0
Chloroethane	0.594	0.623		-4.9	
Methylene Chloride	1.298	1.361		-4.9	
Acetone	0.131	0.072		45.0	
Carbon Disulfide	2.906	2.762		5.0	
1,1-Dichloroethene	1.400	1.619	0.100	-15.6	25.0
1,1-Dichloroethane	2.649	2.772	0.200	-4.6	25.0
1,2-Dichloroethene (total)	1.443	1.599		-10.8	
Chloroform	3.912	4.018	0.200	-2.7	25.0
1,2-Dichloroethane	2.116	1.708	0.100	19.3	25.0
2-Butanone	0.182	0.097		46.7	
1,1,1-Trichloroethane	0.961	0.740	0.100	23.0	25.0
Carbon Tetrachloride	0.983	0.785	0.100	20.1	25.0
Bromodichloromethane	1.050	0.738	0.200	29.7	25.0
1,2-Dichloropropane	0.372	0.276		25.8	
cis-1,3-Dichloropropene	0.580	0.391	0.200	32.6	25.0
Trichloroethene	0.644	0.586	0.300	9.0	25.0
Dibromochloromethane	1.085	0.692	0.100	36.2	25.0
1,1,2-Trichloroethane	0.368	0.235	0.100	36.1	25.0
Benzene	0.811	0.656	0.500	19.1	25.0
trans-1,3-Dichloropropene	0.404	0.278	0.100	31.2	25.0
Bromoform	0.870	0.536	0.100	38.4	25.0
4-Methyl-2-Pentanone	0.189	0.093		50.8	
2-Hexanone	0.107	0.054		49.5	
Tetrachloroethene	0.766	0.823	0.200	-7.4	25.0
1,1,2,2-Tetrachloroethane	0.494	0.306	0.500	38.1	25.0
Toluene	1.172	1.179	0.400	-0.6	25.0
Chlorobenzene	1.121	1.140	0.500	-1.7	25.0
Ethylbenzene	0.432	0.441	0.100	-2.1	25.0
Styrene	0.923	0.790	0.300	14.4	25.0
Xylene (total)	0.582	0.513	0.300	11.9	25.0
Toluene-d8	1.123	1.055		6.1	
Bromofluorobenzene	0.955	0.800	0.200	16.2	25.0
1,2-Dichloroethane-d4	2.123	1.564		26.3	

All other compounds must meet a minimum RRF of 0.010.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Instrument ID: MS7 Calibration date: 02/04/92 Time: 0952

Lab File ID: G1548 Init. Calib. Date(s): 01/11/92 01/11/92

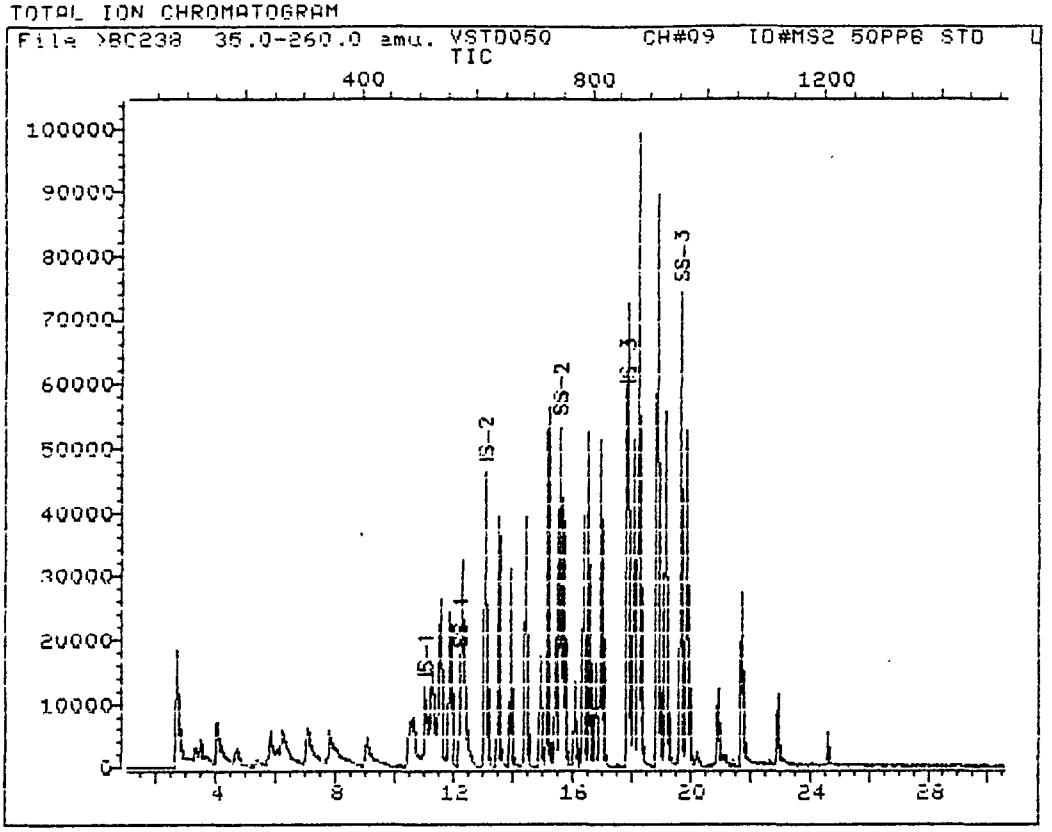
Heated Purge: (Y/N) N Init. Calib. Times: 1121 1642

GC Column: SP-1000 ID: 2.50(mm)

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX %D
Chloromethane	0.604	0.648		-7.3	
Bromomethane	1.682	1.539	0.100	8.5	25.0
Vinyl Chloride	0.921	0.958	0.100	-4.0	25.0
Chloroethane	0.604	0.574		5.0	
Methylene Chloride	1.262	1.301		-3.1	
Acetone	0.291	0.233		19.9	
Carbon Disulfide	2.737	2.412		11.9	
1,1-Dichloroethene	1.265	1.187	0.100	6.2	25.0
1,1-Dichloroethane	2.262	2.225	0.200	1.6	25.0
1,2-Dichloroethene (total)	1.344	1.241		7.7	
Chloroform	3.739	3.875	0.200	-3.6	25.0
1,2-Dichloroethane	2.859	3.062	0.100	-7.1	25.0
2-Butanone	0.399	0.312		21.8	
1,1,1-Trichloroethane	1.124	1.006	0.100	10.5	25.0
Carbon Tetrachloride	1.106	1.059	0.100	4.2	25.0
Bromodichloromethane	0.978	0.896	0.200	8.4	25.0
1,2-Dichloropropane	0.349	0.306		12.3	
cis-1,3-Dichloropropene	0.724	0.636	0.200	12.2	25.0
Trichloroethene	0.589	0.501	0.300	14.9	25.0
Dibromochloromethane	1.031	0.893	0.100	13.4	25.0
1,1,2-Trichloroethane	0.404	0.355	0.100	12.1	25.0
Benzene	0.834	0.712	0.500	14.6	25.0
trans-1,3-Dichloropropene	0.765	0.645	0.100	15.7	25.0
Bromoform	0.858	0.724	0.100	15.6	25.0
4-Methyl-2-Pentanone	0.281	0.224		20.3	
2-Hexanone	0.180	0.146		18.9	
Tetrachloroethene	0.637	0.592	0.200	7.1	25.0
1,1,2,2-Tetrachloroethane	0.578	0.482	0.500	16.6	25.0
Toluene	1.218	1.118	0.400	8.2	25.0
Chlorobenzene	1.093	0.991	0.500	9.3	25.0
Ethylbenzene	0.497	0.435	0.100	12.5	25.0
Styrene	1.079	0.918	0.300	14.9	25.0
Xylene (total)	0.648	0.557	0.300	14.0	25.0
Toluene-d8	1.211	1.099		9.2	
Bromofluorobenzene	0.846	0.831	0.200	1.8	25.0
1,2-Dichloroethane-d4	2.903	3.001		-3.4	

All other compounds must meet a minimum RRF of 0.010.

TOTAL ION CHROMATOGRAM



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Name: VSTD050 CH#09 Instrument ID: MS2
Misc: ID#MS2 50PPB STD LOW SOIL 5.0ML+Q1-33 LH

Id File: V2ID::D1
Title: VOLATILE ANALYSIS CLP-TCL DB624 75 Meters ID:MS2
Last Calibration: 910429 11:21 Last Qcal Time: 920131 10:00

Operator ID: VOA2
Quant Time : 920203 17:38
Injected at: 920203 16:58

Case# 3916

CB

Operator ID: VOA2 Quant Rev: 7 Quant Time: 920203 17:38
Output File: ^BC238::QT Injected at: 920203 16:58
Data File: >BC238::D4 Dilution Factor: 1.00000
Name: VSTD050 CH#09 Instrument ID: MS2
Misc: ID#MS2 50PPB STD LOW SOIL 5.0ML+Q1-33 LH

ID File: V2ID::D1
Title: VOLATILE ANALYSIS CLP-TCL DB624 75 Meters ID:MS2
Last Calibration: 910429 11:21 Last Qcal Time: 920131 10:00

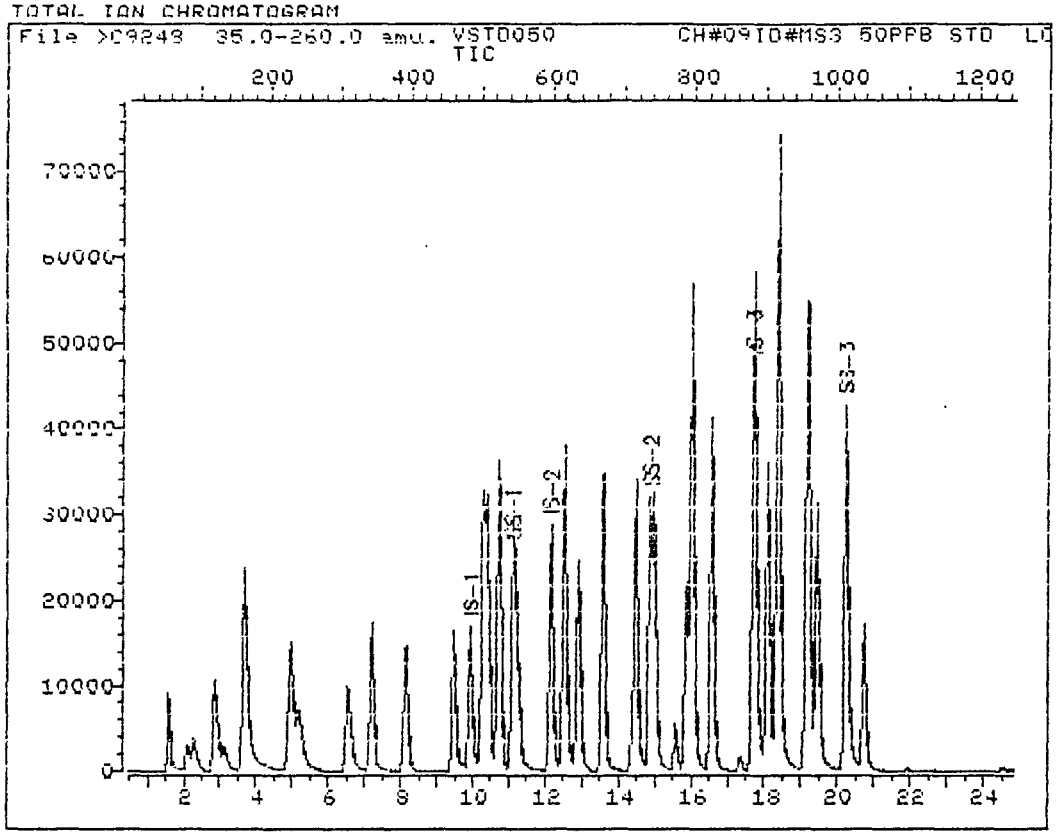
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	11.00	128.0	22718M	50.00	UG/L	
2)	C010 Chloromethane	3.30	50.0	11057	41.67	UG/L	93
3)	C015 Bromomethane	4.01	94.0	21096M	44.93	UG/L	93
4)	C020 Vinyl Chloride	3.46	62.0	15659M	39.40	UG/L	91
5)	C025 Chloroethane	4.18	64.0	11964M	46.63	UG/L	90
6)	C030 Methylene Chloride	7.04	84.0	26415M	48.11	UG/L	83
7)	C035 Acetone	6.04	43.0	14286M	110.45	UG/L	78
8)	C040 Carbon Disulfide	6.21	76.0	47200	41.40	UG/L	99
9)	C045 1,1-Dichloroethene	5.76	96.0	19267M	41.87	UG/L	94
10)	C050 1,1-Dichloroethane	9.01	63.0	38522	45.29	UG/L	95
11)	C053 1,2-Dichloroethene(total)	10.49	96.0	48484M	187.45	UG/L	95
12)	C060 Chloroform	11.24	83.0	54316	44.58	UG/L	98
13)	CS15 1,2-Dichloroethane-d4	12.19	65.0	45224	47.79	UG/L	99
14)	C065 1,2-Dichloroethane	12.35	62.0	40599	48.43	UG/L	90
15)	C110 2-Butanone	10.57	43.0	16462M	97.18	UG/L	94
16)	*CI10 1,4-Difluorobenzene	13.05	114.0	90504	50.00	UG/L	100
17)	C115 1,1,1-Trichloroethane	11.51	97.0	46404M	43.74	UG/L	
18)	C120 Carbon Tetrachloride	11.84	117.0	43964	38.72	UG/L	88
19)	C130 Bromodichloromethane	14.38	83.0	58440	49.52	UG/L	90
20)	C140 1,2-Dichloropropane	13.88	63.0	25018	49.55	UG/L	92
21)	C172 Trans-1,3-Dichloropropene	16.05	75.0	15676	20.03	UG/L	99
22)	C150 Trichloroethene	13.48	130.0	34334	47.40	UG/L	97
23)	C155 Dibromochloromethane	16.95	129.0	61757	46.40	UG/L	88
24)	C160 1,1,2-Trichloroethane	16.34	97.0	28427	52.03	UG/L	93
25)	C165 Benzene	12.27	78.0	60167	52.00	UG/L	100
26)	C143 cis-1,3-Dichloropropene	15.15	75.0	72193	82.67	UG/L	93
27)	C180 Bromoform	19.14	173.0	66604	54.92	UG/L	90
28)	*CI20 Chlorobenzene-d5	17.82	117.0	73404	50.00	UG/L	98
29)	C210 2-Hexanone	16.73	43.0	27122	84.54	UG/L	92
30)	C205 4-Methyl-2-Pentanone	15.42	43.0	34182	73.45	UG/L	83
31)	C220 Tetrachloroethene	16.52	164.0	32020	40.26	UG/L	95
32)	C225 1,1,2,2-Tetrachloroethane	19.86	83.0	62342	62.01	UG/L	96
33)	C230 Toluene	15.65	91.0	67274	46.22	UG/L	97
34)	CS05 Toluene d-8	15.56	98.0	78354	51.20	UG/L	97
35)	C235 Chlorobenzene	17.86	112.0	60028	45.71	UG/L	89
36)	C240 Ethylbenzene	18.04	106.0	24415	45.56	UG/L	91
37)	C245 Styrene	18.86	104.0	58185	45.30	UG/L	85
38)	C250 Total Xylenes	18.84	106.0	31363	44.79	UG/L	95
39)	CS10 Bromofluorobenzene	19.64	95.0	67330	47.51	UG/L	88

* Compound is ISTD

Case# 3916

CB

TOTAL ION CHROMATOGRAM



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Name: VSTD050 CH#09 Instrument ID: MS3
Misc: ID#MS3 50PPB STD LOW WATER 5.0ML CLB

Id File: V3ID::SC
Title: VOLATILE ANALYSIS CLP-TCL DB624 30Mx0.53IDx3uM ID#MS3
Last Calibration: 910429 11:21 Last Qcal Time: 920202 10:08

Operator ID: VOA2
Quant Time : 920204 15:05
Injected at: 920204 12:40

case# 3916

CB

Operator ID: VOA2 Quant Rev: 7 Quant Time: 920204 13:05
Output File: ^C9248::QT Injected at: 920204 12:40
Data File: >C9248::D5 Dilution Factor: 1.00000
Name: VSTD050 CH#09 Instrument ID: MS3
Misc: ID#MS3 50PPB STD LOW WATER 5.0ML CLB

ID File: V3ID::SC
Title: VOLATILE ANALYSIS CLP-TCL DB624 30Mx0.53IDx3uM ID#MS3
Last Calibration: 910429 11:21 Last Qcal Time: 920202 10:08

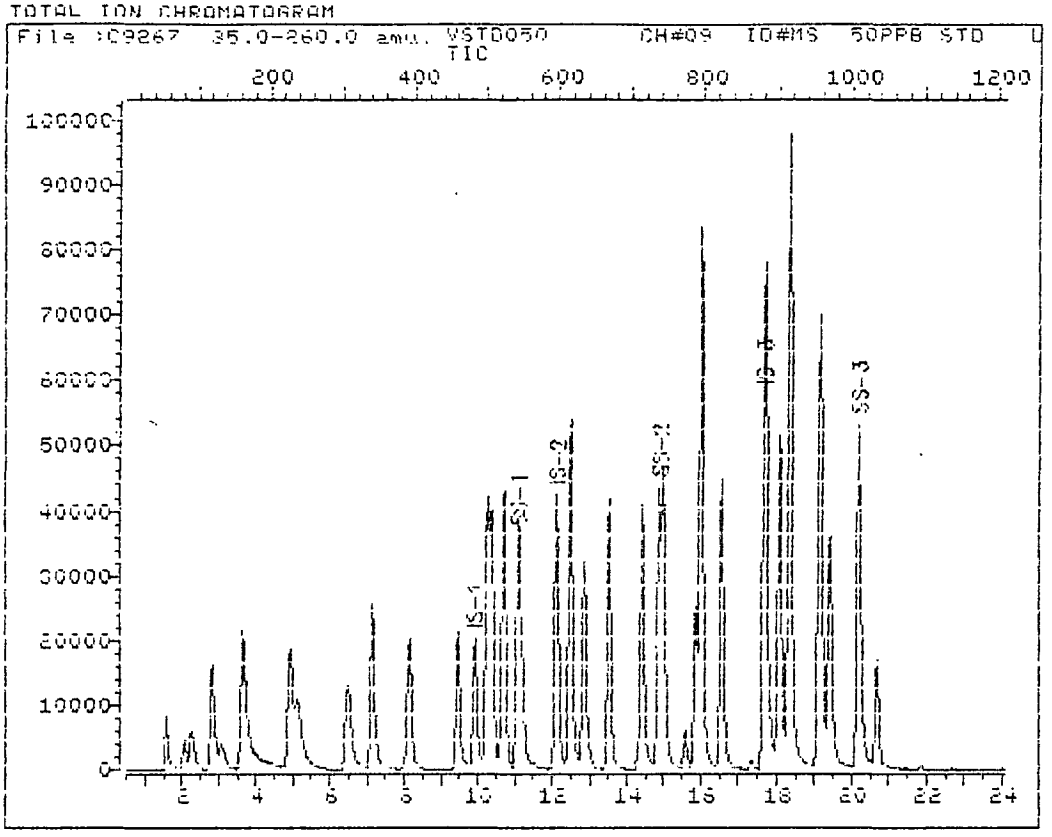
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*C101 Bromochloromethane	9.93	128.0	20142	50.00	UG/L	83
2)	C010 Chloromethane	2.10	50.0	13435	67.41	UG/L	92
3)	C015 Bromomethane	2.84	94.0	34730	62.41	UG/L	86
4)	C020 Vinyl Chloride	2.28	62.0	18316	65.09	UG/L	99
5)	C025 Chloroethane	3.10	64.0	11550	61.66	UG/L	92
6)	C030 Methylene Chloride	6.49	84.0	24716	57.13	UG/L	78
7)	C035 Acetone	5.42	43.0	2451M	21.12	UG/L	
8)	C040 Carbon Disulfide	5.19	76.0	55465	58.39	UG/L	99
9)	C045 1,1-Dichloroethene	4.93	96.0	29732	61.55	UG/L	93
10)	C050 1,1-Dichloroethane	8.13	63.0	55499	59.96	UG/L	94
11)	C053 1,2-Dichloroethene(total)	7.16	96.0	57957M	115.37	UG/L	93
12)	C060 Chloroform	10.28	83.0	86982	57.44	UG/L	97
13)	CS15 1,2-Dichloroethane-d4	11.08	65.0	43349	40.10	UG/L	88
14)	C065 1,2-Dichloroethane	11.24	62.0	46493	44.24	UG/L	91
15)	C110 2-Butanone	9.69	43.0	2805M	18.81	UG/L	
16)	*CI10 1,4-Difluorobenzene	12.14	114.0	84730	50.00	UG/L	100
17)	C115 1,1,1-Trichloroethane	10.40	97.0	80337M	41.22	UG/L	
18)	C120 Carbon Tetrachloride	10.71	117.0	88408	43.90	UG/L	83
19)	C130 Bromodichloromethane	13.52	83.0	84339	39.61	UG/L	95
20)	C140 1,2-Dichloropropane	12.86	63.0	26900	48.62	UG/L	98
21)	C172 Trans-1,3-Dichloropropene	15.58	75.0	13140	14.93	UG/L	99
22)	C150 Trichloroethene	12.49	130.0	49855	46.37	UG/L	97
23)	C155 Dibromochloromethane	16.57	129.0	84408	33.62	UG/L	85
24)	C160 1,1,2-Trichloroethane	15.89	97.0	26517	32.72	UG/L	93
25)	C165 Benzene	11.12	78.0	58960	45.25	UG/L	100
26)	C143 cis-1,3-Dichloropropene	14.42	75.0	65575	63.11	UG/L	96
27)	C180 Bromoform	19.41	173.0	58495	23.35	UG/L	96
28)	*CI20 Chlorobenzene-d5	17.69	117.0	72415	50.00	UG/L	95
29)	C210 2-Hexanone	16.55	43.0	5749	14.05	UG/L	89
30)	C205 4-Methyl-2-Pentanone	14.87	43.0	10010M	16.69	UG/L	
31)	C220 Tetrachloroethene	16.02	164.0	53812	48.17	UG/L	92
32)	C225 1,1,2,2-Tetrachloroethane	20.69	83.0	30418	24.90	UG/L	91
33)	C230 Toluene	14.99	91.0	80057	48.91	UG/L	99
34)	CS05 Toluene d-8	14.87	98.0	73229	44.95	UG/L	93
35)	C235 Chlorobenzene	17.74	112.0	78870	51.56	UG/L	96
36)	C240 Ethylbenzene	18.10	106.0	29826	48.67	UG/L	98
37)	C245 Styrene	19.19	104.0	61089	47.31	UG/L	80
38)	C250 Total Xylenes	19.13	106.0	36721	44.69	UG/L	91
39)	CS10 Bromofluorobenzene	20.21	95.0	64851	44.06	UG/L	99

* Compound is ISTD

case# 3916

CB

TOTAL ION CHROMATOGRAM



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Name: VSTD050 CH#09 Instrument ID: MS3
Misc: ID#MS 50PPB STD LOW WATER 5.0ML+Q1-33 LH

Id File: V3ID::SC
Title: VOLATILE ANALYSIS CLP-TCL DB624 30Mx0.53IDx3uM ID#MS3
Last Calibration: 910429 11:21 Last Qcal Time: 920204 12:40

Operator ID: VOA2
Quant Time : 920205 22:09
Injected at: 920205 21:45

case 3916

CB

Operator ID: VOHZ Quant Rev: 7 Quant Time: 920205 22:09
Output File: ^L9267::Q1 Injected at: 920205 21:45
Data File: >L9267::D5 Dilution Factor: 1.00000
Name: VSID050 CH#09 Instrument ID: MS5
Misc: ID#MS 50PPB STD LOW WATER 5.0ML+Q1-55 LH

ID File: V5ID::SC
Title: VOLATILE ANALYSIS CLP-TCL DB624 30Mx0.55IDx3uM ID#MS5
Last Calibration: 910429 11:21 Last Qcal Time: 920204 12:40

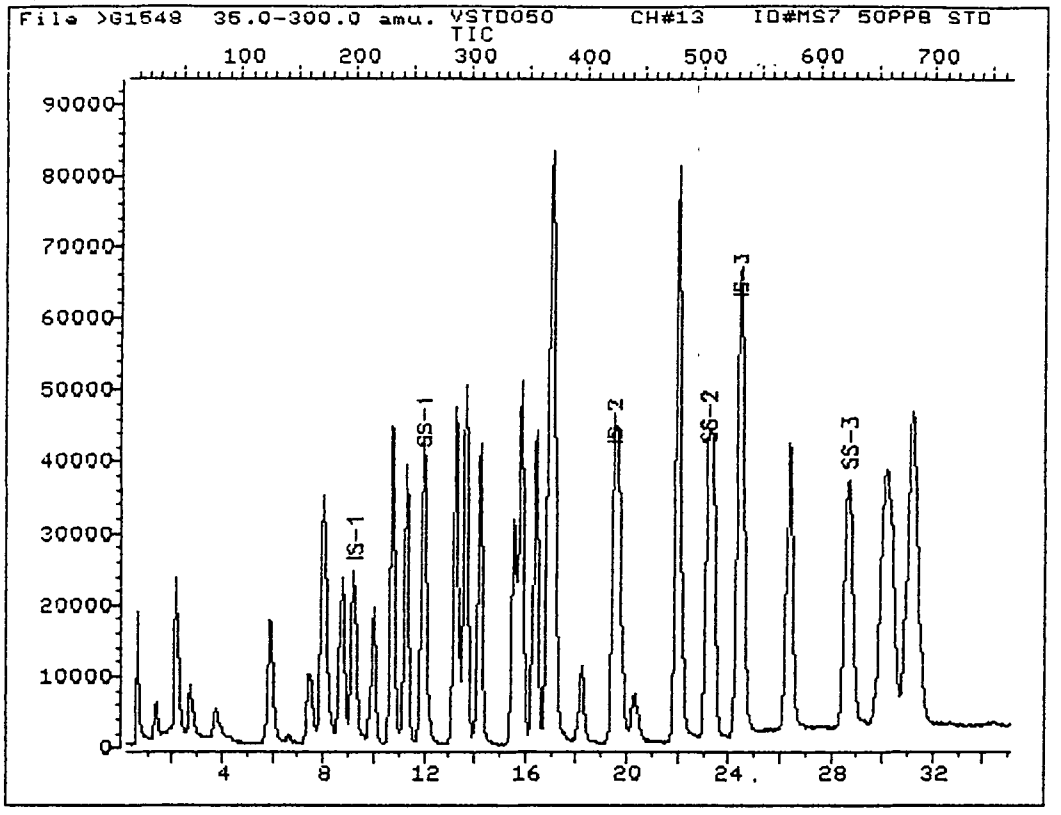
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	9.91	128.0	27991	50.00	UG/L	87
2)	C010 Chloromethane	2.08	50.0	20459	54.79	UG/L	86
3)	C015 Bromomethane	2.82	94.0	49891	51.69	UG/L	86
4)	C020 Vinyl Chloride	2.26	62.0	27266	53.56	UG/L	98
5)	C025 Chloroethane	3.08	64.0	17442	54.33	UG/L	75
6)	C030 Methylene Chloride	6.49	84.0	38089	55.45	UG/L	71
7)	C035 Acetone	5.38	43.0	2004M	29.42	UG/L	
8)	C040 Carbon Disulfide	5.15	76.0	77319	50.16	UG/L	96
9)	C045 1,1-Dichloroethene	4.93	96.0	45318	54.84	UG/L	92
10)	C050 1,1-Dichloroethane	8.13	63.0	77591	50.30	UG/L	92
11)	C053 1,2-Dichloroethene(total)	7.14	96.0	89527M	111.16	UG/L	95
12)	C060 Chloroform	10.24	83.0	112464	46.52	UG/L	93
13)	CS15 1,2-Dichloroethane-d4	11.08	65.0	43793	36.35	UG/L	94
14)	C065 1,2-Dichloroethane	11.22	62.0	47797	36.99	UG/L	92
15)	C110 2-Butanone	9.68	43.0	2720	34.89	UG/L	92
16)	*CI10 1,4-Difluorobenzene	12.12	114.0	134131	50.00	UG/L	100
17)	C115 1,1,1-Trichloroethane	10.38	97.0	99275M	39.03	UG/L	
18)	C120 Carbon Tetrachloride	10.71	117.0	105268	37.61	UG/L	86
19)	C130 Bromodichloromethane	13.53	83.0	98930	37.05	UG/L	94
20)	C140 1,2-Dichloropropane	12.86	63.0	37050	43.50	UG/L	94
21)	C172 Trans-1,3-Dichloropropene	15.58	75.0	14931M	13.64	UG/L	98
22)	C150 Trichloroethene	12.49	130.0	78594	49.79	UG/L	97
23)	C155 Dibromochloromethane	16.55	129.0	92818	34.73	UG/L	86
24)	C160 1,1,2-Trichloroethane	15.87	97.0	31501	37.52	UG/L	91
25)	C165 Benzene	11.12	78.0	88021	47.15	UG/L	100
26)	C143 cis-1,3-Dichloropropene	14.42	75.0	84015	65.56	UG/L	96
27)	C180 Bromoform	19.43	173.0	71913	38.83	UG/L	97
28)	*CI20 Chlorobenzene-d5	17.67	117.0	103340	50.00	UG/L	94
29)	C210 2-Hexanone	16.55	43.0	5594	34.09	UG/L	95
30)	C205 4-Methyl-2-Pentanone	14.87	43.0	9576M	33.52	UG/L	
31)	C220 Tetrachloroethene	16.03	164.0	85083	55.40	UG/L	95
32)	C225 1,1,2,2-Tetrachloroethane	20.68	83.0	31641	36.45	UG/L	87
33)	C230 Toluene	14.97	91.0	121811	53.31	UG/L	97
34)	CS05 Toluene d-8	14.87	98.0	109004	52.15	UG/L	93
35)	C235 Chlorobenzene	17.73	112.0	117808	52.34	UG/L	97
36)	C240 Ethylbenzene	18.08	106.0	45559	53.52	UG/L	95
37)	C245 Styrene	19.17	104.0	81686	46.85	UG/L	84
38)	C250 Total Xylenes	19.12	106.0	53003	50.57	UG/L	97
39)	CS10 Bromofluorobenzene	20.19	95.0	82662	44.66	UG/L	81

* Compound is ISTD

case# 3916

OB

TOTAL ION CHROMATOGRAM



Data File: >G1548::D7 Quant Output File: ^G1548::QT
Name: VSTD050 CH#13 Instrument ID: MS7
Misc: ID#MS7 50PPB STD LOW WATER 5.0ML+QC 1-33 RW

Id File: V7ID::SC
Title: VOLATILE ANALYSIS 45(3)-220(15) 8 FT SP1000 ID=MS7
Last Calibration: 910703 01:53 Last Qcal Time: 920203 20:41

Operator ID: VOA7
Quant Time : 920204 10:31
Injected at: 920204 09:52

Case# 3916

CB

Operator ID: VOA7 Quant Rev: 7 Quant Time: 920204 10:31
Output File: ^G1548::QT Injected at: 920204 09:52
Data File: >G1548::D7 Dilution Factor: 1.00000
Name: VSTD050 CH#13 Instrument ID: MS7
Misc: ID#MS7 50PPB STD LOW WATER 5.0ML+QC 1-33 RW

ID File: V7ID::SC
Title: VOLATILE ANALYSIS 45(3)-220(15) 8 FT SP1000 ID=MS7
Last Calibration: 910703 01:53 Last Qcal Time: 920203 20:41

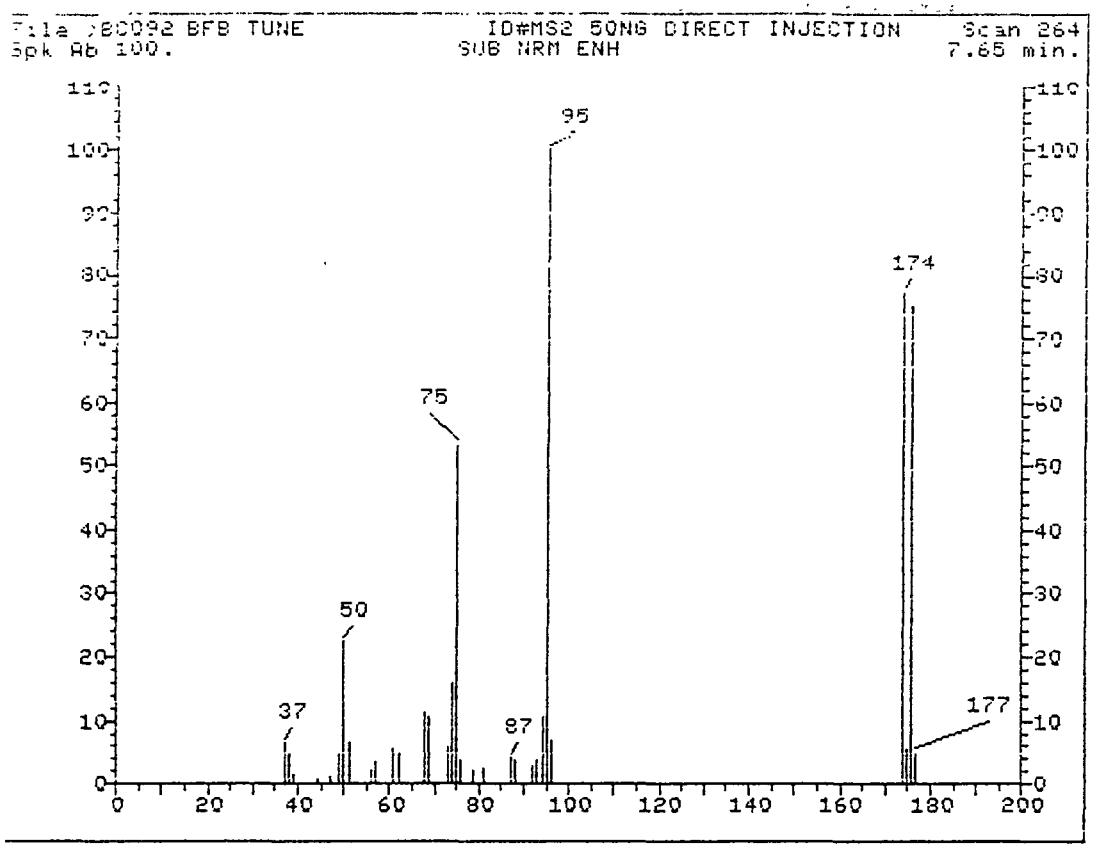
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	9.20	128.0	49583	50.00	UG/L	77
2)	C010 Chloromethane	1.35	50.0	32116	39.77	UG/L	90
3)	C015 Bromomethane	2.13	94.0	76294	45.45	UG/L	85
4)	C020 Vinyl Chloride	2.72	62.0	47521	42.38	UG/L	92
5)	C025 Chloroethane	3.77	64.0	28457	41.97	UG/L	98
6)	C030 Methylene Chloride	5.87	84.0	64496	52.75	UG/L	82
7)	C035 Acetone	6.64	43.0	11534	49.36	UG/L	96
8)	C040 Carbon Disulfide	7.42	76.0	119605	46.18	UG/L	98
9)	C045 1,1-Dichloroethene	8.74	96.0	58870	48.20	UG/L	88
10)	C050 1,1-Dichloroethane	9.97	63.0	110310	46.23	UG/L	93
11)	C053 1,2-Dichloroethene(TOTAL)	10.70	96.0	123108	97.53	UG/L	98
12)	C060 Chloroform	11.30	83.0	192126	49.61	UG/L	98
13)	CS15 1,2-Dichloroethane-d4	11.93	65.0	148789	52.50	UG/L	84
14)	C065 1,2-Dichloroethane	12.03	62.0	151801	49.99	UG/L	90
15)	C110 2-Butanone	11.98	43.0	15480	42.19	UG/L	92
16)	*CI10 1,4-Difluorobenzene	19.46	114.0	202004	50.00	UG/L	92
17)	C115 1,1,1-Trichloroethane	13.26	97.0	203112	48.28	UG/L	80
18)	C120 Carbon Tetrachloride	13.62	117.0	213971	47.35	UG/L	99
19)	C130 Bromodichloromethane	14.21	83.0	180915	47.77	UG/L	98
20)	C140 1,2-Dichloropropane	15.54	63.0	61776	45.00	UG/L	98
21)	C172 Trans-1,3-Dichloropropene	17.09	75.0	52139M	18.81	UG/L	
22)	C150 Trichloroethene	16.40	130.0	101203	45.49	UG/L	92
23)	C155 Dibromochloromethane	17.00	129.0	180443	45.96	UG/L	85
24)	C160 1,1,2-Trichloroethane	17.09	97.0	71673	45.45	UG/L	93
25)	C165 Benzene	16.91	78.0	143752	45.56	UG/L	100
26)	C143 cis-1,3-Dichloropropene	15.81	75.0	205538	73.85	UG/L	99
27)	C180 Bromoform	19.69	173.0	146336	45.68	UG/L	99
28)	*CI20 Chlorobenzene-d5	24.39	117.0	172321	50.00	UG/L	97
29)	C210 2-Hexanone	21.92	43.0	25108	39.41	UG/L	85
30)	C205 4-Methyl-2-Pentanone	20.33	43.0	38558	37.22	UG/L	74
31)	C220 Tetrachloroethene	22.01	164.0	102095	47.02	UG/L	92
32)	C225 1,1,2,2-Tetrachloroethane	21.97	83.0	83060M	43.16	UG/L	
33)	C230 Toluene	23.34	91.0	192696	46.86	UG/L	83
34)	CS05 Toluene d-8	23.16	98.0	189331	48.59	UG/L	99
35)	C235 Chlorobenzene	24.48	112.0	170698	46.19	UG/L	97
36)	C240 Ethylbenzene	26.35	106.0	75013	45.42	UG/L	94
37)	C245 Styrene	30.00	104.0	158125	47.09	UG/L	68
38)	C250 Total Xylenes	30.27	106.0	96006M	45.73	UG/L	69
39)	CS10 Bromofluo*						

Case# 3916

CB

VOLATILES

d. Raw QC data



MS data file header from : >BC092::D5

Sample: BFB TUNE Operator: VOA1 REG. GRP. 1/06/92 9:02
Misc : ID#MS2 50NG DIRECT INJECTION RW
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2A Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	110.	160.	0.	0.	0.
Chromatographic times, min. :	1.0	5.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	4.0	0.0	0.0	1.5	0.0

Case# 3916

CB

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	8-40% of mass 95	22.31	22.31	Ok
75	30-66% of mass 95	53.28	53.28	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.98	6.98	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	50-120% of mass 95	77.12	77.12	Ok
175	4-9% of mass 174	5.47	7.09	Ok
176	93-101% of mass 174	75.06	97.33	Ok
177	5-9% of mass 176	4.87	6.49	Ok

Injection Date: 01/06/92
Injection Time: 09:02
Data File: >BC092
Scan: 264

::

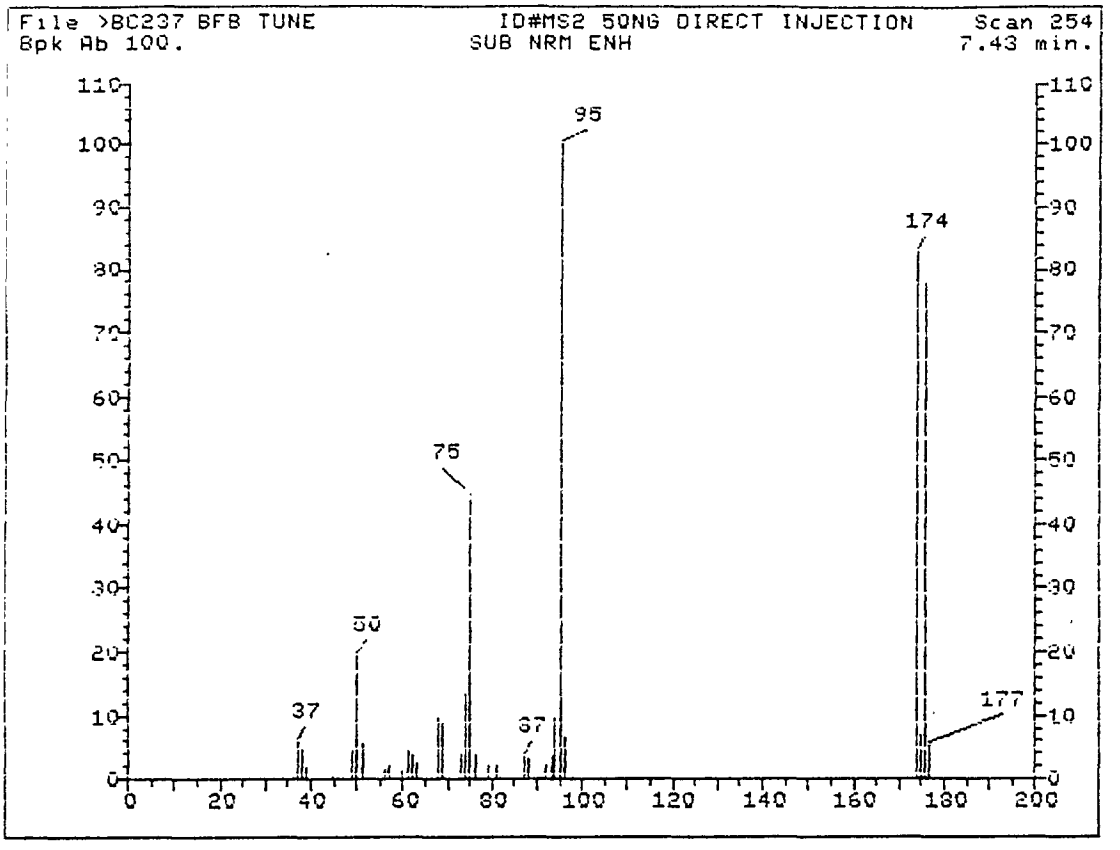
>BC092 BFB TUNE ID#MS2 50NG DIRECT INJECTION RW
264 SUB NRM ENH

File: >BC092 Scan #: 264 Retn. time: 7.65

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.00	6.412	51.10	6.374	68.95	10.640	80.85	2.366	94.95	100.000
38.00	4.977	55.95	2.081	72.95	5.688	86.95	4.008	95.95	6.981
39.00	1.590	56.95	3.581	73.95	15.837	87.95	3.943	173.90	77.117
44.00	.892	60.95	5.391	74.95	53.277	91.95	2.637	174.90	5.469
46.90	1.189	61.95	4.848	75.95	3.917	92.95	3.659	175.90	75.061
49.00	4.835	67.15	.271	78.85	2.211	94.05	10.718	176.90	4.874
50.00	22.314	67.95	11.273						

case# 3916

CR



MS data file header from : >BC237::D4

Sample: BFB TUNE Operator: VOA2 REG. GRP. 2/03/92 16:29
Misc : ID#MS2 50NG DIRECT INJECTION RW
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2A Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	110.	160.	0.	0.	0.
Chromatographic times, min. :	1.0	5.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	4.0	0.0	0.0	1.5	0.0

case# 3916

CB

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	8-40% of mass 95	19.27	19.27	Ok
75	30-66% of mass 95	43.73	43.73	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.67	6.67	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	50-120% of mass 95	82.72	82.72	Ok
175	4-9% of mass 174	6.73	8.14	Ok
176	93-101% of mass 174	77.91	94.18	Ok
177	5-9% of mass 176	5.04	6.46	Ok

Injection Date: 02/03/92
Injection Time: 16:29
Data File: >BC237
Scan: 254

::

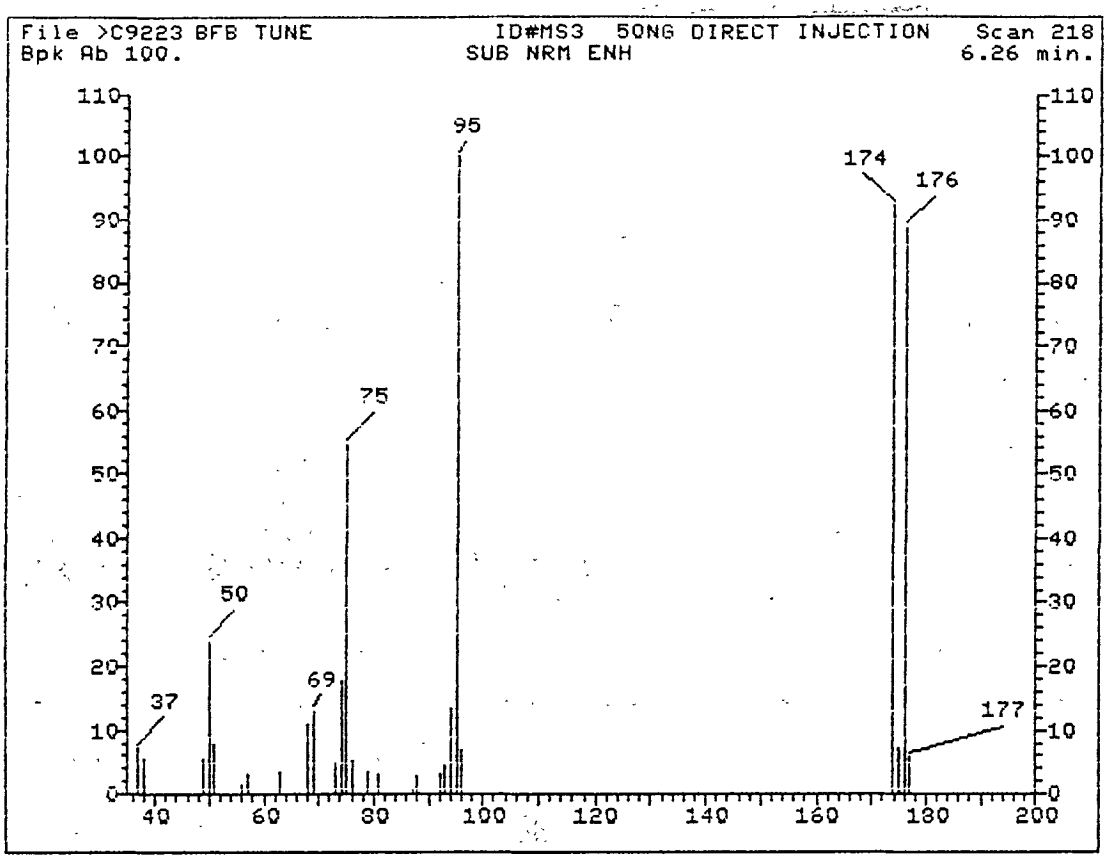
>BC237 BFB TUNE ID#MS2 50NG DIRECT INJECTION RW
254 SUB NRM ENH

File: >BC237 Scan #: 254 Retn. time: 7.43

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.00	.490	51.10	5.436	67.95	9.432	80.95	2.278	95.05	100.000
37.00	5.815	55.95	1.479	68.95	8.843	86.95	3.407	96.05	6.675
38.00	4.746	56.95	2.278	72.95	3.897	87.95	3.118	173.90	82.724
39.00	1.759	59.95	.949	73.95	13.279	91.95	2.148	174.90	6.735
44.90	.340	61.05	4.386	74.95	43.725	93.05	3.387	175.90	77.908
49.00	4.466	61.95	3.927	76.05	3.657	93.95	9.612	176.90	5.036
50.00	19.275	63.05	2.598	78.95	2.148				

Case# 3916

CB



MS data file header from : >C9223::D5

Sample: BFB TUNE Operator: VOA2 REG. GRP. 2/01/92 9:15
Misc : ID#MS3 50NG DIRECT INJECTION LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3A Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	80.	160.	0.	0.	0.
Chromatographic times, min. :	5.0	5.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	4.0	0.0	0.0	1.5	0.0

case # 3916

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
50	8-40% of mass 95	23.90	23.90	Ok
75	30-66% of mass 95	54.65	54.65	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.89	6.89	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	50-120% of mass 95	92.25	92.25	Ok
175	4-9% of mass 174	7.19	7.80	Ok
176	93-101% of mass 174	88.66	96.11	Ok
177	5-9% of mass 176	5.68	6.40	Ok

Injection Date: 02/01/92
Injection Time: 09:15
Data File: >C9223
Scan: 218

::

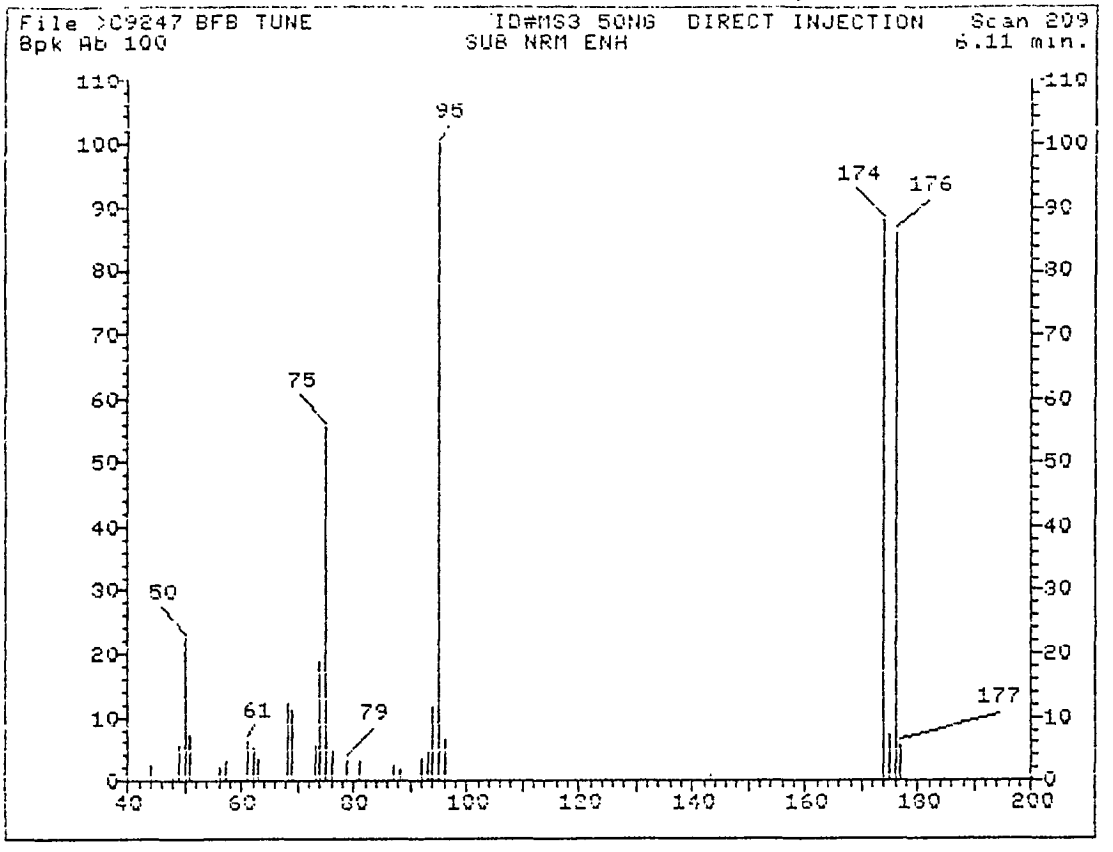
>C9223 BFB TUNE ID#MS3 50NG DIRECT INJECTION LH

218 SUB NRM ENH

File: >C9223 Scan #: 218 Retn. time: 6.26

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.00	7.040	56.90	3.204	75.05	54.652	87.95	2.705	96.05	6.887
38.10	5.429	63.05	3.319	76.05	5.179	92.05	3.088	173.95	92.250
49.00	5.659	68.05	11.030	78.95	3.434	93.05	4.450	174.95	7.194
50.00	23.902	69.05	13.083	80.85	3.280	94.05	13.121	175.95	88.663
51.00	7.731	72.95	4.796	86.95	.710	95.05	100.000	176.90	5.678
55.90	1.477	74.05	17.571						

CAR # 3916



MS data file header from : >C9247::D5

Sample: BFB TUNE Operator: VOA2 REG. GRP. 2/04/92 11:57
Misc : ID#MS3 50NG DIRECT INJECTION CLB
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3A Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	80.	160.	0.	0.	0.
Chromatographic times, min. :	5.0	5.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	4.0	0.0	0.0	1.5	0.0

case# 3916

CB

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	8-40% of mass 95	22.29	22.29	Ok
75	30-66% of mass 95	55.38	55.38	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.49	6.49	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	50-120% of mass 95	87.85	87.85	Ok
175	4-9% of mass 174	7.09	8.07	Ok
176	93-101% of mass 174	85.95	97.83	Ok
177	5-9% of mass 176	5.63	6.55	Ok

Injection Date: 02/04/92
Injection Time: 11:57
Data File: >C9247
Scan: 209

::

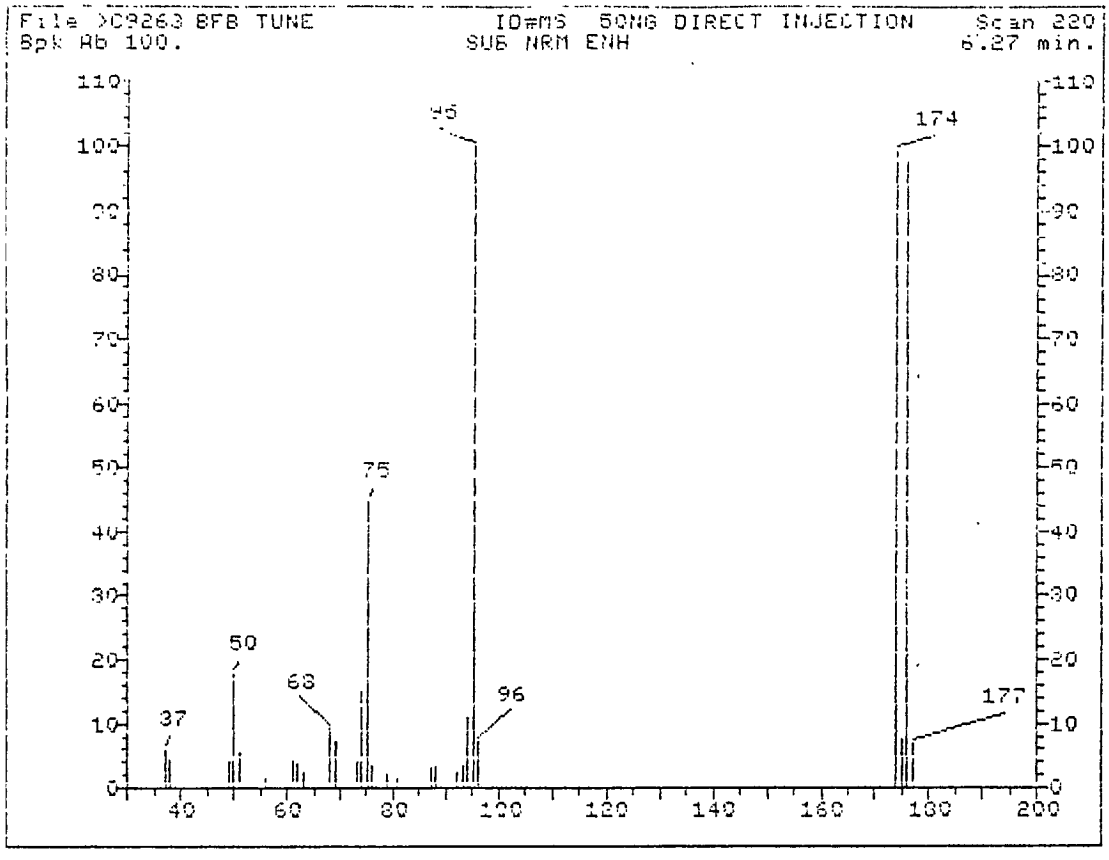
>C9247 BFB TUNE ID#MS3 50NG DIRECT INJECTION
209 SUB NRM ENH

File: >C9247 Scan #: 209 Retn. time: 6.11

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
35.90	.421	51.00	7.063	69.05	11.163	80.95	3.274	95.05	100.000
37.00	6.283	56.00	1.980	73.05	5.441	86.95	2.510	96.05	6.486
38.00	5.114	57.10	3.181	74.05	18.538	88.05	1.824	173.85	87.855
44.00	2.339	61.05	6.283	75.05	55.379	92.05	3.336	174.95	7.094
48.00	.390	62.05	5.239	76.05	4.880	92.95	4.381	175.95	85.953
49.00	5.659	63.05	3.414	78.95	3.274	94.05	11.709	176.90	5.628
50.00	22.295	68.05	12.239						

case# 3916

CB



MS data file header from : >C9263::D5

Sample: BFB TUNE Operator: VOA2 REG. GRP. 2/05/92 15:34
Misc : ID#MS 50NG DIRECT INJECTION LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3A Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	80.	160.	0.	0.	0.
Chromatographic times, min. :	5.0	5.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	4.0	0.0	0.0	1.5	0.0

case # 3916

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CB

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
50	8-40% of mass 95	17.82	17.82	Ok
75	30-66% of mass 95	44.58	44.58	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.14	7.14	Ok
173	Less than 2% or mass 174	0.00	0.00	Ok
174	50-120% of mass 95	99.24	99.24	Ok
175	4-9% of mass 174	7.69	7.69	Ok
176	93-101% of mass 174	97.80	98.55	Ok
177	5-9% of mass 176	6.68	6.83	Ok

Injection Date: 02/05/92
Injection Time: 15:34
Data File: >C9263
Scan: 220

::

>C9263 BFB TUNE ID#MS 50NG DIRECT INJECTION LH
220 SUB NRM ENH

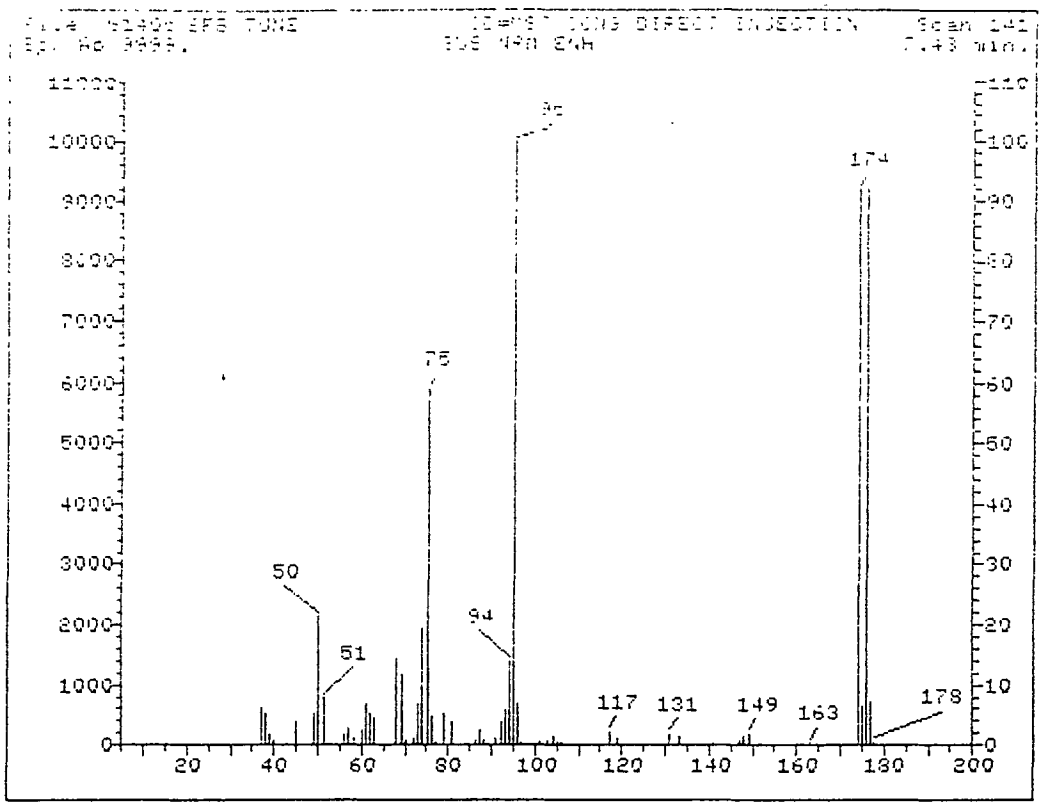
File: >C9263 Scan #: 220 Retn. time: 6.27

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.00	5.931	51.00	5.460	69.05	7.306	80.95	1.322	95.05	100.000
38.00	4.609	56.00	1.584	73.05	4.072	87.05	3.037	96.05	7.135
39.00	.628	57.00	.157	74.05	14.821	88.05	3.417	173.95	99.241
44.90	.314	61.05	4.242	75.05	44.580	92.05	2.540	174.95	7.633
47.10	.314	62.05	3.758	76.05	3.561	93.05	3.627	175.95	97.800
49.00	4.124	63.05	2.592	76.95	.733	94.05	10.814	177.00	6.677
50.00	17.819	68.05	9.191	78.95	2.160				

case# 3916

343

CB



MS data file header from : >G1405::D7

Sample: BFB TUNE Operator: VOA7 REG. GRP. 1/11/92 10:43
Misc : ID#MS7 50NG DIRECT INJECTION LH
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS7
Method file: MS7A Tuning file: TUNEG No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp.: 0

Chromatographic temperatures :	220.	220.	0.	0.	0.
Chromatographic times, min. :	10.0	1.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	1.0	0.0	0.0	.5	0.0

case # 3916

344

JJ

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	8-40% of mass 95	21.27	21.27	Ok
75	30-66% of mass 95	58.77	58.77	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.85	6.85	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	50-120% of mass 95	91.92	91.92	Ok
175	4-9% of mass 174	6.40	6.96	Ok
176	93-101% of mass 174	91.92	100.00	Ok
177	5-9% of mass 176	7.13	7.76	Ok

Injection Date: 01/11/92
Injection Time: 10:43
Data File: >G1405
Scan: 141

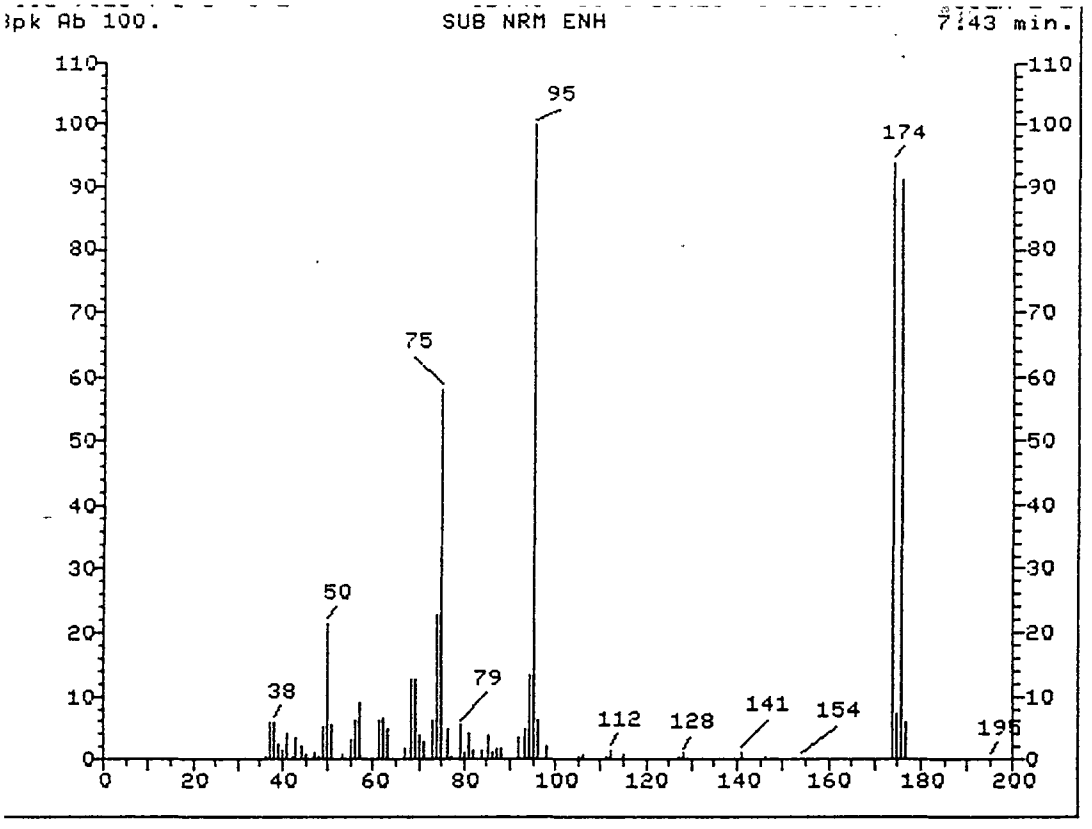
::

>G1405 BFB TUNE ID#MS7 50NG DIRECT INJECTION LH
141 SUB NRM ENH

File: >G1405 Scan #: 141 Retn. time: 7.43

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.00	603.14	58.00	118.01	76.05	498.25	96.05	684.43	147.05	89.16
38.00	503.49	60.00	259.61	77.05	55.07	97.05	49.82	148.05	141.61
39.00	173.07	61.00	687.05	78.95	532.34	101.05	89.16	149.05	186.19
40.00	89.16	62.05	511.36	80.95	385.48	103.05	73.43	162.95	28.85
41.00	7.87	63.05	432.69	86.05	73.43	104.05	144.23	173.95	9191.32
42.00	13.11	68.05	1423.93	87.05	233.39	105.05	47.20	174.95	639.85
43.00	15.73	69.05	1161.70	88.05	73.43	106.05	55.07	175.95	9191.32
45.00	372.37	70.05	89.16	91.05	115.38	117.05	217.65	176.95	713.28
49.10	511.36	72.05	94.40	92.05	390.73	119.05	102.27	177.95	49.82
50.00	2126.72	73.05	681.81	93.05	592.65	131.05	186.19	207.10	249.12
51.10	770.97	74.05	1940.54	94.05	1384.60	133.05	131.12	209.00	44.58
56.00	188.81	75.05	5876.67	95.05	9999.00	140.85	36.71	266.90	55.07
57.00	280.59								

case # 3916



MS data file header from : >G1547::D7

Sample: BFB TUNE Operator: VOA7 REG. GRP. 2/04/92 9:11
Misc : ID#MS7 50NG DIRECT INJECTION RW
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS7
Method file: MS7A Tuning file: TUNEG No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	220.	220.	0.	0.	0.
Chromatographic times, min. :	10.0	1.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	1.0	0.0	0.0	.5	0.0

Case # 3916

346

CB

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	8-40% of mass 95	21.53	21.53	Ok
75	30-66% of mass 95	58.02	58.02	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.28	6.28	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	50-120% of mass 95	93.70	93.70	Ok
175	4-9% of mass 174	7.05	7.52	Ok
176	93-101% of mass 174	90.85	96.96	Ok
177	5-9% of mass 176	5.74	6.32	Ok

Injection Date: 02/04/92
Injection Time: 09:11
Data File: >G1547
Scan: 141

File: >G1547 Scan #: 141 Retn. time: 7.43

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.00	.517	50.00	21.529	71.15	2.934	87.05	1.632	127.05	.496
37.00	5.785	51.00	5.579	73.05	6.054	87.95	1.694	127.95	1.095
38.00	5.992	53.00	.661	74.05	22.727	92.05	3.450	140.95	1.136
39.00	2.562	55.00	2.975	75.05	58.017	93.05	4.669	145.95	.269
40.00	1.570	56.00	6.116	76.05	4.979	94.05	13.202	147.05	.062
41.10	4.194	57.10	9.008	77.05	.455	95.05	100.000	153.95	.207
42.10	.351	61.00	6.157	78.95	5.475	96.05	6.281	173.95	93.698
43.00	3.533	62.05	6.653	79.85	.930	98.05	2.190	174.95	7.045
44.00	2.169	63.05	4.731	81.05	4.091	105.05	.537	175.95	90.847
45.00	.702	67.05	1.921	82.05	1.343	105.95	.764	176.95	5.744
47.10	1.074	68.05	12.562	84.05	1.488	111.15	.393	195.00	.248
48.00	.517	69.05	12.562	85.15	3.781	112.15	1.570	221.10	.950
49.00	5.207	70.15	3.967	86.05	1.054	115.05	.640	281.00	.021

Chart# 3916

CB

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK01

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: V20203-B1

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC239

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK01

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3316 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) SOIL Lab Sample ID: V20203-B1

Sample wt/vol: 5.0 (g/mL) G Lab File ID: BC239

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/03/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

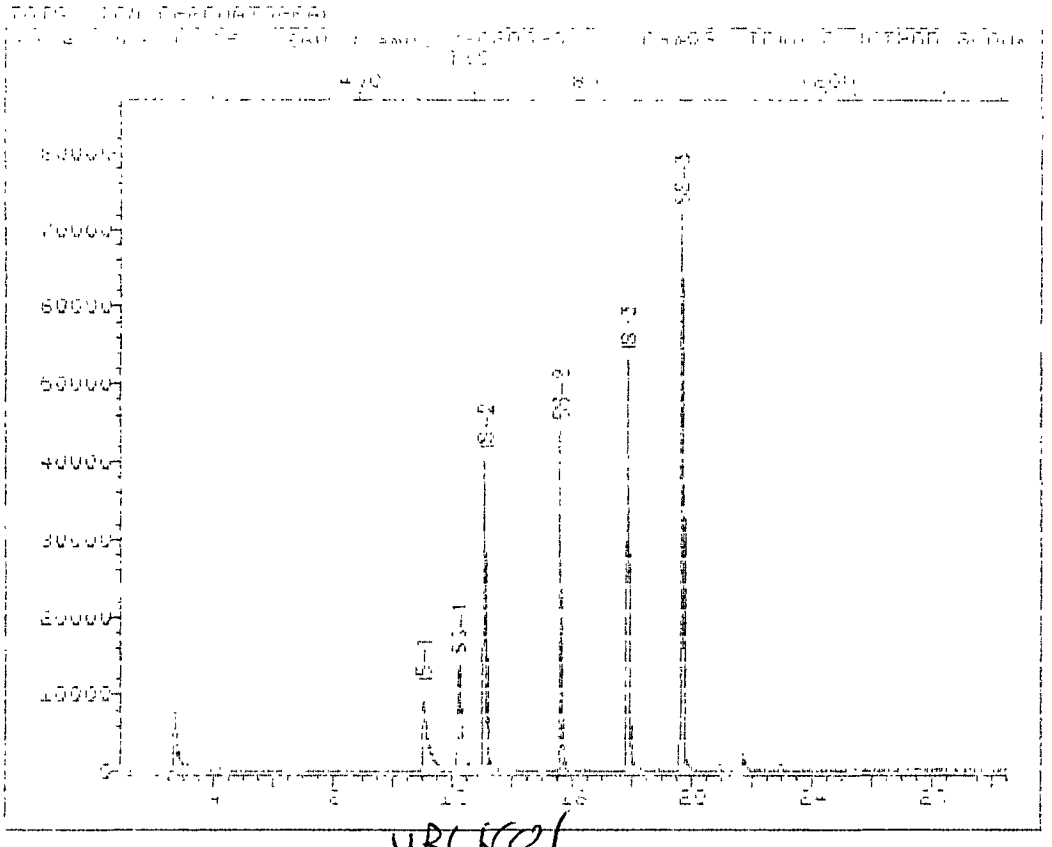
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

349



VBCK01

Data File: >BC239::D4 Quant Output File: ^BC239::QT
Name: V20203-B1 CH#09 Instrument ID: MS2
Misc: ID#MS2 METHOD BLANK LOW SOIL 5.0ML+Q1-33 LH

Id File: V2ID::D1
Title: VOLATILE ANALYSIS CLP-TCL DB624 75 Meters ID:MS2
Last Calibration: 910429 11:21 Last Qcal Time: 920203 16:58

Operator ID: VOA2
Quant Time : 920203 19:05
Injected at: 920203 18:01

Case # 3916

O/K

Operator ID: VOA2 Quant Rev: 7 Quant Time: 920203 19:05
Output File: bc239::Q1 Injected at: 920203 18:01
Data File: >BC239::D4 Dilution Factor: 1.00000
Name: V20203-F1 CH#09 Instrument ID: MS2
Misc: ID#MS2 METHOD BLANK LOW SOIL 5.0ML+Q1-33 LH

ID File: V2ID::D1
Title: VOLATILE ANALYSIS CLP-TCL DB624 75 Meters ID:MS2
Last Calibration: 910429 11:21 Last Qcal Time: 920203 16:58

NBCK01

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	11.00	128.0	20423	50.00	UG/L	71
13)	CS15 1,2-Dichloroethane-d4	12.19	65.0	41064	50.50	UG/L 101%	99
16)	*CI10 1,4-Difluorobenzene	13.07	114.0	83684	50.00	UG/L	100
28)	*CI20 Chlorobenzene-d5	17.84	117.0	67805	50.00	UG/L	97
34)	CS05 Toluene d-8	15.57	98.0	70497	48.70	UG/L 97%	95
39)	CS10 Bromofluorobenzene	19.63	95.0	62684	50.39	UG/L 101%	89

* Compound is ISTD

Case # 3916

G/C

MS data file header from : .BC239::L4

Sample: V20203-B1 CH#09 Operator: VOA2 REG. GRP. 2/03/92 18:01
Misc : ID#MS2 METHOD BLANK LOW SOIL 5.0ML+Q1-33 LH
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS2
Method file: MS2B Tuning file: TUNEB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	35.	200.	0.	0.	0.
Chromatographic times, min. :	8.0	6.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.8	0.0

>BC239 V20203-B1 CH#09 ID#MS2 METHOD BLANK LOW SOIL 5.0ML+Q1-3

35.0| 260.0 TIC
Upslope: .2000 Area Reject: 2.00 % Max Peaks: 9 Bunch: -1 Valley >100 %
Dnslope: 0.0000 Results File VDIR87 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	2.68	80	86	103	7443	55625	53657	18.12	4.406
2	4.10	147	159	166	483	8777	6305	2.13	.518
3	11.02	501	513	547	10337	135019	132376	44.71	10.871
4	12.19	567	573	599	13733	107074	104823	35.40	8.608
5	13.07	612	618	635	40271	200910	198806	67.14	16.326
6	15.57	732	746	760	43871	194994	194994	65.85	16.013
7	17.84	856	862	879	52963	222626	220413	74.44	18.100
8	19.63	947	954	977	71873	297866	296107	100.00	24.316
9	21.72	1057	1061	1072	2192	12852	10267	3.47	.843

Sum of corrected areas: 1217748.

Case # 3916

6 TIC

Gel 2

VBLK01

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK04

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-G-01

Matrix: (soil/water) WATER Lab Sample ID: V70204-B1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: G1549

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/04/92

GC Column: SP-1000 ID: 2.50 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	3	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK04

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) WATER Lab Sample ID: V70204-B1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: G1549

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/04/92

GC Column: SP-1000 ID: 2.50 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

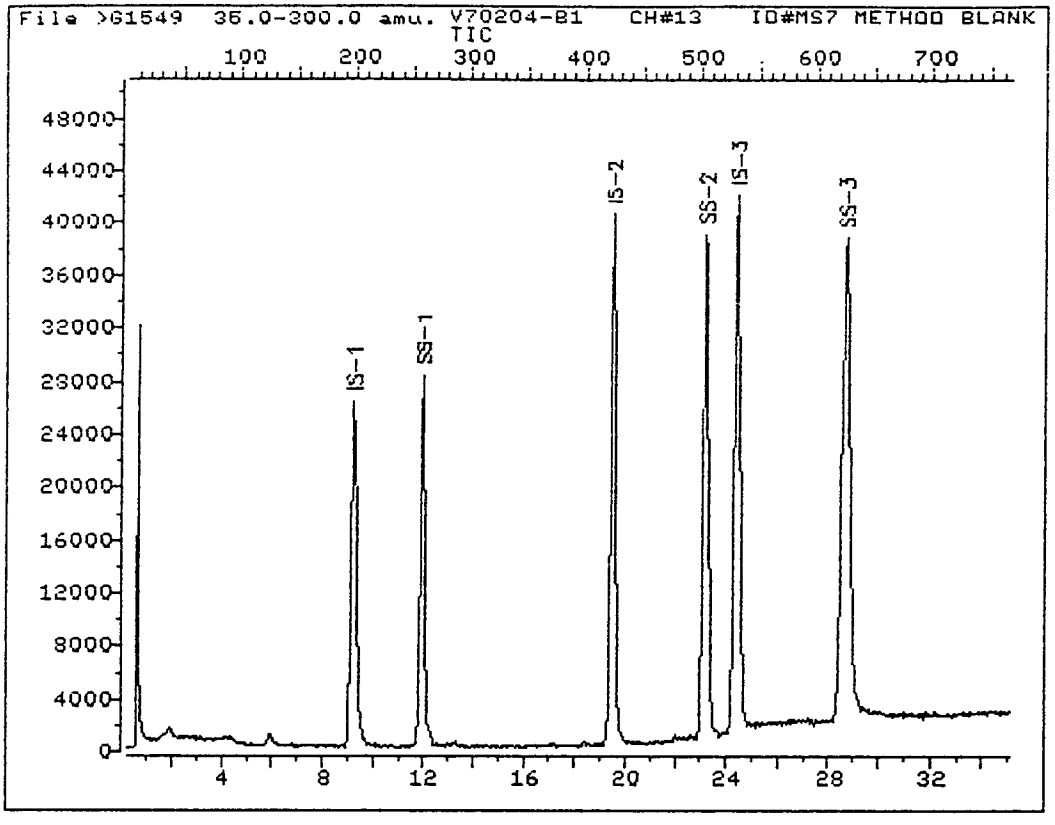
Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

354

TOTAL ION CHROMATOGRAM



Data File: >G1549::D7 Quant Output File: ^G1549::QT
Name: V70204-B1 CH#13 Instrument ID: MS7
Misc: ID#MS7 METHOD BLANK LOW WATER 5.0ML+QC 1-33 RW

Id File: V7ID::SC
Title: VOLATILE ANALYSIS 45(3)-220(15) 8 FT SP1000 ID=MS7
Last Calibration: 910703 01:53 Last Qcal Time: 920204 09:52

Operator ID: VOA7
Quant Time : 920204 11:50
Injected at: 920204 11:13

Case #3916

C412

VBLK04

355

Case #

CB

QUANT REPORT

Operator ID: VOA7 Quant Rev: 7 Quant Time: 920204 11:50
Output File: ^G1549::QT Injected at: 920204 11:13
Data File: >G1549::D7 Dilution Factor: 1.00000
Name: V70204-B1 CH#13 Instrument ID: MS7
Misc: ID#MS7 METHOD BLANK LOW WATER 5.0ML+QC 1-33 RW

ID File: V7ID::SC
Title: VOLATILE ANALYSIS 45(3)-220(15) 8 FT SP1000 ID=MS7
Last Calibration: 910703 01:53 Last Qcal Time: 920204 09:52

	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*CI01 Bromochloromethane	9.22	128.0	52920	50.00	UG/L		80
6)	C030 Methylene Chloride	5.93	84.0	3626	2.63	UG/L		72
13)	CS15 1,2-Dichloroethane-d4	11.95	65.0	158040	49.76	UG/L	100%	84
16)	*CI10 1,4-Difluorobenzene	19.47	114.0	213936	50.00	UG/L		91
28)	*CI20 Chlorobenzene-d5	24.40	117.0	181169	50.00	UG/L		97
34)	CS05 Toluene d-8	23.17	98.0	198125	49.77	UG/L	100%	98
39)	CS10 Bromofluorobenzene	28.69	95.0	150961	50.12	UG/L	100%	91

* Compound is ISTD

Case # 3916

G/C

VBLK07

Case#

356

CB

reg	type	# pts	scan#	range: amu/r.t.	base	file	ion range
X	GC	699	1	.19- 32.02	42225.0	G1549	35.00- 300.00

MS data file header from : .G1549::D/

Sample: V70204-B1 CH#13 Operator: VDA7 REG. GRP. 2/04/92 11:13
Misc : ID#MS7 METHOD BLANK LOW WATER 5.0ML+QC 1-33 RW
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS7
Method file: MS7B Tuning file: TUNEG No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	45.	220.	0.	0.	0.
Chromatographic times, min. :	3.0	24.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	8.0	0.0	0.0	.1	0.0

:G1549 V70204-B1 CH#13 ID#MS7 METHOD BLANK LOW WATER 5.0ML+QC 1

35.0| 300.0 TIC
Upslope: .2000 Area Reject: 2.00 % Max Peaks: 8 Bunch: -1 Valley >100 %
Dnslope: 0.0000 Results File VD[R87 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	.60	5	10	21	31737	154668	137922	16.39	3.980
2	1.92	28	39	46	949	66384	23483	2.79	.678
3	9.22	192	199	216	26055	405628	377225*	44.81	10.885
4	11.95	250	259	271	27934	391123	365154	43.38	10.537
5	19.47	416	424	437	40099	589471	556656	66.13	16.063
6	23.17	498	505	518	38087	610798	553041	65.70	15.959
7	24.40	524	532	542	40676	686563	610227	72.49	17.609
8	28.69	615	626	640	36479	1005134	841757	100.00	24.290

Sum of corrected areas: 3465465.

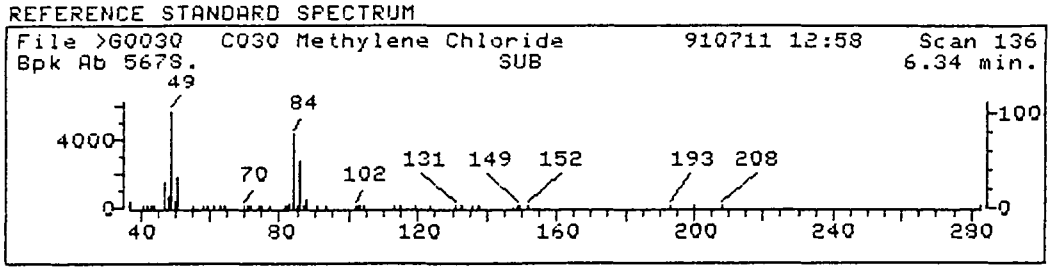
Case #3916

p TIC

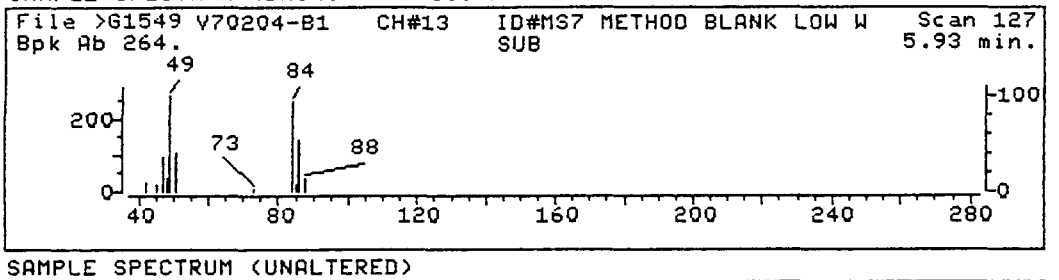
Case#

VBLK04

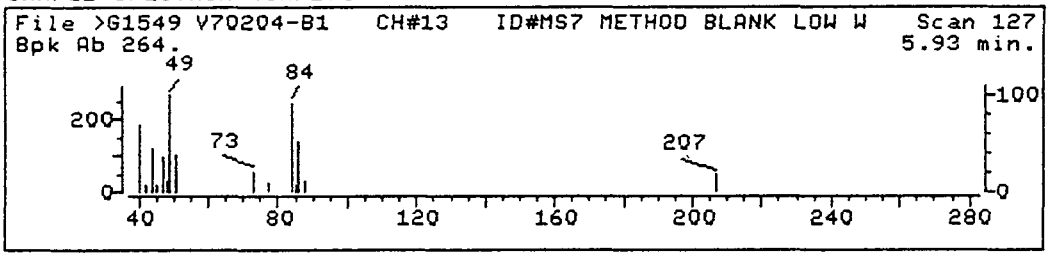
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >G1549::D7 Quant Output File: ^G1549::QT
Name: V70204-B1 CH#13 Instrument ID: MS7
Misc: ID#MS7 METHOD BLANK LOW WATER 5.0ML+QC 1-33 RW
Quant Time: 920204 11:50 Quant ID File: V7ID::SC
Injected at: 920204 11:13 Last Calibration: 910703 01:53
Last Qcal Time: 920204 09:52

Compound No : 6
Compound Name : C030 Methylene Chloride
Scan Number : 127
Retention Time: 5.93 min.
Quant Ion : 84.0
Area : 3626
Concentration : 2.63 UG/L
q-value : 72

VBLK04

case# 3916

0412

358

CB

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK03

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) WATER Lab Sample ID: V30204-B1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9249

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/04/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK02

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3316 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) WATER Lab Sample ID: V30204-B1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9249

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/04/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

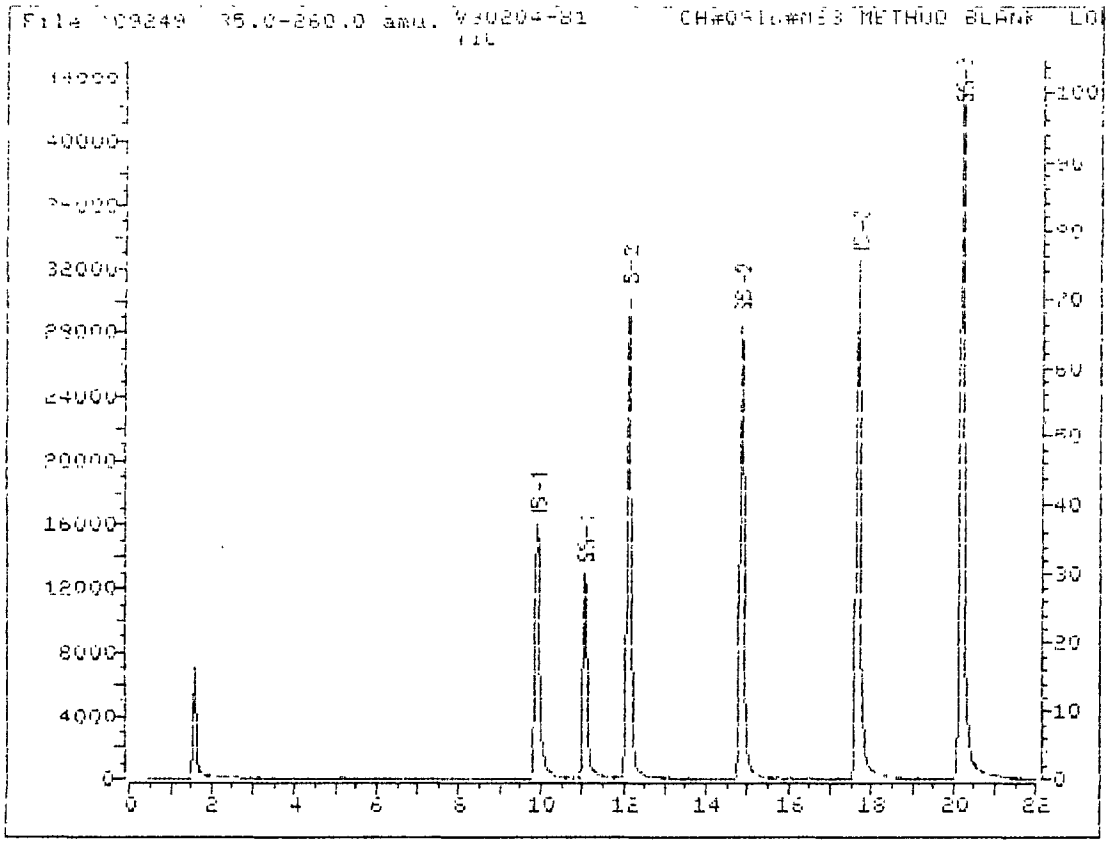
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

360



MS data file header from : >C9249::D5

Sample: V30204-B1 CH#09 Operator: VOA2 REG. GRP. 2/04/92 13:28
Misc : ID#MS3 METHOD BLANK LOW WATER 5.0ML CLB
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

VBLK03

Case# 3916

Operator ID: VOA2 Quant Rev: 7 Quant Time: 920204 14:04
Output File: ^C9249::QT Injected at: 920204 13:28
Data File: :C9249::D5 Dilution Factor: 1.00000
Name: V30204-B1 CH#09 Instrument ID: MS3
Misc: ID#MS3 METHOD BLANK LOW WATER 5.0ML CLB

ID File: V3ID::SC
Title: VOLATILE ANALYSIS CLP-TCL DB624 30Mx0.53IDx3uM ID#MS3
Last Calibration: 910429 11:21 Last Qcal Time: 920204 12:40

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	9.91	128.0	20962	50.00	UG/L	79
13)	CS15 1,2-Dichloroethane-d4	11.06	65.0	40509	44.90	UG/L 90%	88
16)	*CI10 1,4-Difluorobenzene	12.11	114.0	90711	50.00	UG/L	100
28)	*CI20 Chlorobenzene-d5	17.67	117.0	74858	50.00	UG/L	97
34)	CS05 Toluene d-8	14.84	98.0	77078	50.91	UG/L 102%	91
39)	CS10 Bromofluorobenzene	20.19	95.0	68442	51.05	UG/L 102%	97

* Compound is ISTD

VBLK03

case #3916 04/2

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CB

MS data file header from : >C9249::D5

Sample: V30204-B1 CH#09 Operator: VOA2 REG. GRP. 2/04/92 13:28
Misc : ID#MS3 METHOD BLANK LOW WATER 5.0ML CLB
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

>C9249 V30204-B1 CH#09ID#MS3 METHOD BLANK LOW WATER 5.0ML
35.0| 260.0 TIC
Upslope: .2000 Area Reject: 2.00 % Max Peaks: 7 Bunch: -1 Valley >100 %
Dnslope: 0.0000 Results File VDIR87 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	1.59	48	58	72	6992	40476	40476	12.20	3.154
2	9.91	474	484	516	15967	138580	135185	40.74	10.534
3	11.06	535	543	564	12824	97646	94147	28.38	7.336
4	12.11	586	597	622	29927	223658	218427	65.83	17.021
5	14.84	727	737	773	28503	217472	217472	65.55	16.946
6	17.67	872	882	908	32390	247873	245806	74.09	19.154
7	20.17	1001	1010	1037	42978	334657	331787	100.00	25.854

Sum of corrected areas: 1283300.

0 TIC

V52K03

Case# 3916

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1D

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK02

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) WATER Lab Sample ID: V30205-B1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9268

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/05/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK02

Lab Name: CEIMIC CORP Contract: NUS

Lab Code: CEIMIC Case No.: 3916 SAS No.: _____ SDG No.: E-S-01

Matrix: (soil/water) WATER Lab Sample ID: V30205-B1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9268

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/05/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

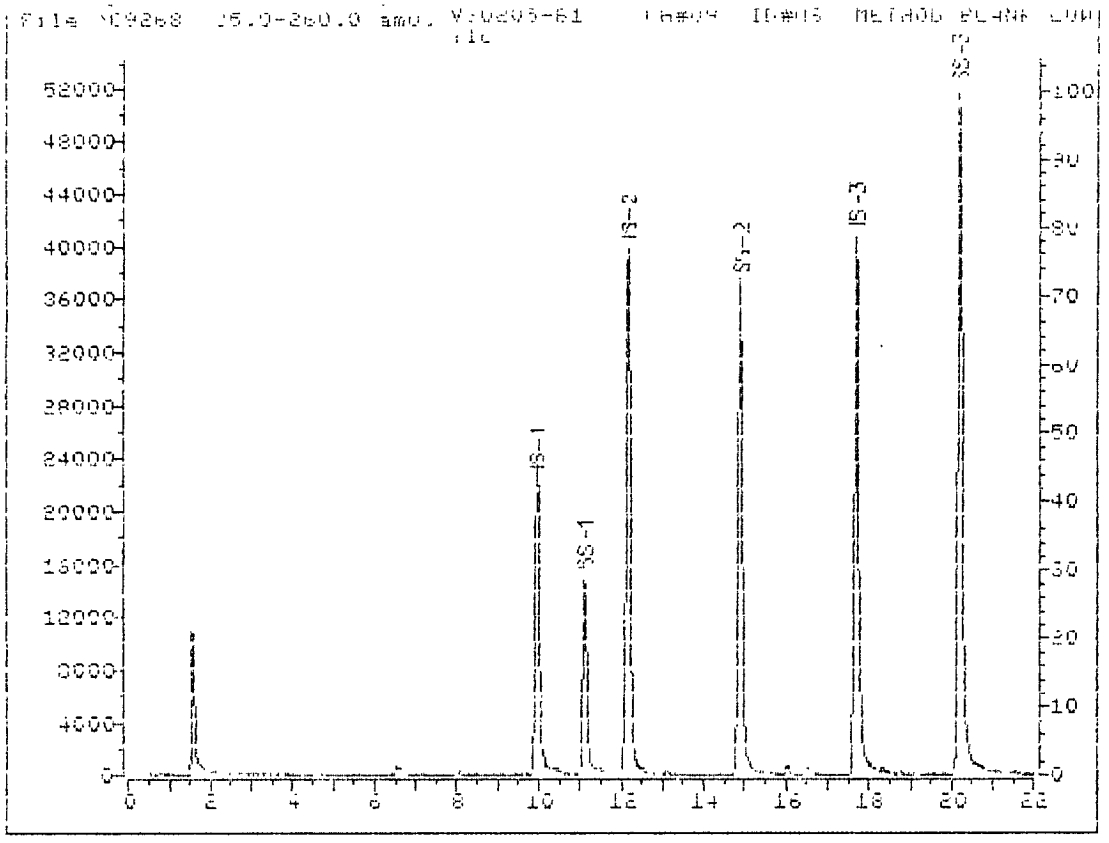
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

365



MS data file header from : >C9268::D5

Sample: V30205-B1 CH#09 Operator: VOA2 REG. GRP. 2/05/92 22:30
Misc : ID#MS METHOD BLANK LOW WATER 5.0ML+Q1-33 LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

VBLK02

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case# 3916

Operator ID: VUHZ Quant Rev: 7 Quant Time: 920205 22:54
Output File: >L9268::Q1 Injected at: 920205 22:50
Data File: >L9268::D5 Dilution Factor: 1.00000
Name: V920205-B1 CH#09 Instrument ID: MS5
Misc: ID#M5 METHOD BLANK LOW WATER 5.0ML>41-55 LH

ID File: V>ID::5C
Title: VOLATILE ANALYSIS CLP-TCL DB624 30Mx0.53ID x3uM ID#M5>
Last Calibration: 910429 11:21 Last Qual Time: 920205 21:45

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	9.94	128.0	28555	50.00	UG/L	85
15)	CS15 1,2-Dichloroethane-d4	11.11	65.0	44227	49.55	UG/L 99%	97
16)	*CI10 1,4-Difluorobenzene	12.17	114.0	124454	50.00	UG/L	100
28)	*CI20 Chlorobenzene-d5	17.69	117.0	98756	50.00	UG/L 100%	96
34)	CS05 Toluene d-8	14.90	98.0	104526	50.17	UG/L	99
39)	CS10 Bromofluorobenzene	20.19	95.0	80645	51.04	UG/L 102%	86

* Compound is ISTD

VBLK02

367

Case# 3916 MK

CB

MS data file header from : >C9268::D5

Sample: V30205-B1 CH#09 Operator: VOA2 REG. GRP. 2/05/92 22:30
Misc : ID#MS METHOD BLANK LOW WATER 5.0ML+Q1-33 LH
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MS3
Method file: MS3B Tuning file: TUNEC No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	0.	110.	170.	0.	0.
Chromatographic times, min. :	5.0	0.0	15.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	50.0	0.0	1.5	0.0

>C9268 V30205-B1 CH#09 ID#MS METHOD BLANK LOW WATER 5.0ML+Q1-

35.0| 260.0 TIC
Upslope: .2000 Area Reject: 2.00 % Max Peaks: 7 Bunch: -1 Valley >100 %
Dnslope: 0.0000 Results File VDIR87 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	1.57	48	55	89	10874	67854	66654	16.97	4.169
2	9.96	476	485	503	23537	172726	169499	43.15	10.602
3	11.11	535	544	561	14690	111382	107696	27.41	6.736
4	12.17	589	598	613	39646	285644	281395	71.63	17.600
5	14.88	728	737	762	37472	278931	275902	70.23	17.257
6	17.69	872	881	911	40647	307513	304816	77.59	19.065
7	20.19	1000	1009	1033	51761	395198	392838	100.00	24.571

Sum of corrected areas: 1598800.

(0) TIC

VBLK02

case# 3914

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TPH ANALYSES

TOTAL PETROLEUM HYDROCARBON

BY IR

EPA Method 418.1

Client: Halliburton NUS Environmental Corp.

Project: 920045

Date Samples Received: 2/01/92

Concentration in: mg/kg (ppm)+

Client ID	Laboratory ID	Sample Concentration	Method Reporting Limit
E-S-01	920045-01	9,100	1,700
E-S-02	920045-02	30,000	8,700
E-S-03	920045-03	3,000	1,100
E-S-04	920045-04	7,200	3,300
E-S-05	920045-05	2,000	700
E-S-06	920045-06	9,800	2,100
E-S-07	920045-07	ND	30
E-S-07D	920045-08	ND	30
E-S-08	920045-09	ND	30
E-S-09	920045-10	65	30
E-S-12	920045-11	1,200	320
<u>QA/QC</u>			
Method Blank	I920204-B2	ND	30
Laboratory Control Spike	I920204-LCS2	68 %	
Independent Calibration Standard	I920210-ICS1	94 %	

ND = Not detected

+ Dry weight basis

Reported by: _____ Approved by: _____

TOTAL PETROLEUM HYDROCARBON

BY IR

EPA Method 418.1

Client: Halliburton NUS Environmental Corp.

Project: 920045

Date Samples Received: 2/01/92

Concentration in: mg/L (ppm)

Client ID	Laboratory ID	Sample Concentration	Method Reporting Limit
E-FB-01	920045-12	ND	1
E-RB-01	920045-13	ND	1
<u>QA/QC</u>			
Method Blank	I0204-B1	ND	1
Laboratory Control Spike	I0204-LCS1	104 %	
Independent Calibration Standard	I0209-ICS1	99 %	

ND = Not detected

Reported by: _____ Approved by: _____

TOTAL METALS

TOTAL LEAD
COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-S-01

SOW No.: 7/88

SAMPLE ID	Lab Sample ID.
E-FB-01	00045-12S
E-FB-01	00045-13S
E-S-01	00045-01S
E-S-02	00045-02S
E-S-03	00045-03S
E-S-04	00045-04S
E-S-05	00045-05S
E-S-06	00045-06S
E-S-07	00045-07S
E-S-07-D	00045-08S
E-S-08	00045-09S
E-S-09	00045-10S
E-S-12	00045-11S

Were ICP interelement corrections applied? Yes/No NO
Were ICP background corrections applied? Yes/No YES
If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Phyllis Shiller Name: Phyllis Shiller

Date: 3/5/92 Title: Inorganic Manager

TOTAL LEAD

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE ID:

E-FB-01

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUG SAS No.: SDG No.: E-S-01

Matrix (soil/water): WATER Lab Sample ID: 00045-125

Level (low/med): LOW Date Received: 02/01/92

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	1.10	B		F

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

TOTAL LEAD

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE ID

E-RB-01

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-S-01

Matrix (soil/water): WATER Lab Sample ID: 00045-13S

Level (low/med): LOW Date Received: 02/01/92

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	2.20	B		F

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

TOTAL LEAD

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE IC

E-S-01

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-S-01

Matrix (soil/water): SOIL Lab Sample ID: 00045-01S

Level (low/med): LOW Date Received: 02/01/92

% Solids: 89.5

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	2.80			F

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE ID

E-S-02

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-S-01

Matrix (soil/water): SOIL Lab Sample ID: 00045-002

Level (low/med): LOW Date Received: 02/01/92

% Solids: 87.9

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	2.70			F

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

TOTAL LEAD

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE ID

F-S-03

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-S-01

Matrix (soil/water): SOIL Lab Sample ID: 00045-038

Level (low/med): LOW Date Received: 02/01/90

% Solids: 86.9

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	3.30			F

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE ID

E-S-04

Lab Name: CEIMIC Contract: HUS

Lab Code: CEIMIC Case No.: HUS SAS No.: SDG No.: E-S-01

Matrix (soil/water): SOIL Lab Sample ID: 00045-04S

Level (low/med): LOW Date Received: 02/01/99

% Solids: 89.4

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	4.40			F

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

TOTAL LEAD

INORGANIC ANALYSIS DATA SHEET

SAMPLE ID

E-S-05

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-S-01

Matrix (soil/water): SOIL Lab Sample ID: 00045-055

Level (low/med): LOW Date Received: 02/01/92

% Solids: 87.3

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	4.10			F

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

TOTAL LEAD

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE 1?

E-S-06

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-S-01

Matrix (soil/water): SOIL Lab Sample ID: 00045-065

Level (low/med): LOW Date Received: 05/01/92

% Solids: 86.6

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	3.40			F

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

TOTAL LEAD

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE ID

E-S-07

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-S-01

Matrix (soil/water): SOIL Lab Sample ID: 00045-078

Level (low/med): LOW Date Received: 02/01/92

% Solids: 76.2

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	2.10			F

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

 7/88

TOTAL LEAD

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE ID
E-S-07-D

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-S-01

Matrix (soil/water): SOIL Lab Sample ID: 00045-085

Level (low/med): LOW Date Received: 02/01/92

% Solids: 95.3

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	2.00			F

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

TOtal LEAD

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE ID

E-S-08

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-S-01

Matrix (soil/water): SOIL Lab Sample ID: 00045-09S

Level (low/med): LOW Date Received: 02/01/92

% Solids: 87.3

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	3.30			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN 7/88

TOTAL TEMP

INORGANIC ANALYSIS DATA SHEET

SAMPLE ID

E-9-09

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-S-01

Matrix (soil/water): SOIL Lab Sample ID: 00045-109

Level (low/med): LOW Date Received: 02/01/92

% Solids: 87.0

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	3.20			F

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN 7/88

TOTAL LEAD

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE ID

E-S-12

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-S-01

Matrix (soil/water): SOIL Lab Sample ID: 00045-11S

Level (low/med): LOW Date Received: 02/01/92

% Solids: 94.6

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	1.80			F

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

TOTAL LEAD

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-S-01

Initial Calibration Source: EPA-LV

Continuing Calibration Source: EPA-LV

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Lead	98.4	96.05	97.6	98.4	95.55	97.1	94.55	96.1	F

(1) Control limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

TOTAL LEAD

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-S-01

Initial Calibration Source: EPA-LV

Continuing Calibration Source: EPA-LV

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Lead				98.4	95.00	96.5	96.35	97.9	F

(1) Control limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

TOTAL LEAD

24

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-S-01

Initial Calibration Source: EPA-LV

Continuing Calibration Source: EPA-LV

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Lead				98.4	96.10	97.7	95.30	96.8	F

(1) Control limits: Mercury 80-120; Other Metals: 90-110; Cyanide 85-115

TOTAL LEAD

28
CRDL STANDARD FOR AA AND ICP

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-S-01

AA CRDL Standard Source: INGRU VENTURES

ICP CRDL Standard Source:

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R	True	Found	%R	Found	%R
Lead	3.0	3.20	106.7					

TOTAL LEAD

I
BLANKS

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-S-01

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Unit: (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Lead	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	F

TOTAL LEAD

3
BLANKS

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-S-01

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Lead			1.0	U	1.0	U	1.0	U	1.2	B	F

TOTAL LEAD

LABORATORY CONTROL SAMPLE

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-S-01

Solid LCS Source: ICF LCS (0287)

Aqueous LCS Source: EPA-LV

Analyte	Aqueous (ug/L) True	Aqueous (ug/L) Found	Aqueous (ug/L) %R	Solid (mg/kg) True	Solid (mg/kg) Found	C	Solid (mg/kg) Limits		Solid (mg/kg) %R
Lead	97.9	95.45	97.5	236.0	231.6		188.0	285.0	98.1

TOTAL LEAD

STANDARD ADDITION RESULTS

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-S-01

Concentration Units: ug/L

EPA Sample No.	An	0 ADD ABS	1 ADD CON	1 ADD ABS	2 ADD CON	2 ADD ABS	3 ADD CON	3 ADD ABS	Final Conc.	r	Q

TOTAL LEAD

19

Instrument Detection Limits (Quarterly)

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: F S-01

ICP ID Number: Date: 01/01/92

Flame AA ID Number:

Furnace AA ID Number: Z1

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Lead	283.30	BZ	3	1.0	F

Comments:

Z1: PERKIN ELMER ZEEMAN 5100PC

TOTAL LEAD

LJ
PREPARATION LOG

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-C-01

Method: F

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
E-FB-01	02/10/92		50
E-RB-01	02/10/92		50
E-S-01	02/10/92	1.18	200
E-S-02	02/10/92	1.16	200
E-S-03	02/10/92	1.14	200
E-S-04	02/10/92	1.00	200
E-S-05	02/10/92	1.21	200
E-S-06	02/10/92	1.35	200
E-S-07	02/10/92	1.08	200
E-S-07-D	02/10/92	1.18	200
E-S-08	02/10/92	1.05	200
E-S-09	02/10/92	1.02	200
E-S-12	02/10/92	1.21	200
LCSS	02/10/92	1.00	200
LCSW	02/10/92		100
PBS	02/10/92	1.00	200
PBW	02/10/92		100

TOTAL LEAD

14
ANALYSIS RUN LOG

Lab Name: CEIMIC Contract: NUS

Lab Code: CEIMIC Case No.: NUS SAS No.: SDG No.: E-S-01

Instrument ID Number: Z1 Method: F

Start date: 02/25/92 End date: 02/26/92

EPA Sample No.	D.F	Time	% R	Analytes P B
S0	1.00	2302		X
S3	1.00	2309		X
S50	1.00	2317		X
S100	1.00	2324		X
S200	1.00	2331		X
ICV	1.00	2338		X
ICB	1.00	2345		X
CRA	1.00	2352		X
PBW	1.00	2359	108.5	X
PBWA	1.00	0006	~~9999.9~~	X
LCSW	1.00	0013	85.5	X
LCSWA	1.00	0021	~~9999.9~~	X
E-FB-01	1.00	0028	103.0	X
E-FB-01A	1.00	0035	~~9999.9~~	X
CCV	1.00	0042		X
CCB	1.00	0050		X
ZZZZZ	1.00	0057		
E-RB-01	1.00	0104	103.3	X
E-RB-01A	1.00	0111	~~9999.9~~	X
PBS	1.00	0119	108.3	X
PBSA	1.00	0126	~~9999.9~~	X
LCSS	20.00	0133	94.5	X
LCSSA	20.00	0141	~~9999.9~~	X
CCV	1.00	0148		X
CCB	1.00	0155		X
CRA	1.00	0202		
E-S-01	1.00	0210	93.3	X
E-S-01A	1.00	0217	~~9999.9~~	X
E-S-02	1.00	0224	98.3	X
E-S-02A	1.00	0232	~~9999.9~~	X
E-S-03	1.00	0239	103.3	X
E-S-03A	1.00	0246	~~9999.9~~	X

PS 3/5/92

TOTAL LEAD

14
ANALYSIS RUN LOG

Lab Name: CEIMIC — Contract: NUS

Lab Code: CEIMIC — Case No.: NUS — SAS No.: — SDG No.: E-S-01

Instrument ID Number: Z1 — Method: F

Start date: 02/25/92 — End date: 02/26/92

EPA Sample No.	D/F	Time	% R	P B	Analytes
CCV	1.00	0253		X	
CCB	1.00	0301		X	
ZZZZZ	1.00	0308			
E-S-04	1.00	0315	88.8	X	
E-S-04A	1.00	0322	~~9999.9~~	X	
E-S-05	1.00	0329	105.50	X	
E-S-05A	1.00	0336	~~9999.9~~	X	
E-S-06	1.00	0343	99.8	X	
E-S-06A	1.00	0350	~~9999.9~~	X	
CCV	1.00	0357		X	
CCB	1.00	0405		X	
ZZZZZ	1.00	0412			
ZZZZZ	1.00	0419			
E-S-07	1.00	0426	103.8	X	
E-S-07A	1.00	0433	~~9999.9~~	X	
E-S-07-D	1.00	0440	99.0	X	
E-S-07-DA	1.00	0447	~~9999.9~~	X	
E-S-08	1.00	0454	104.3	X	
E-S-08A	1.00	0501	~~9999.9~~	X	
CCV	1.00	0508		X	
CCB	1.00	0515		X	
ZZZZZ	1.00	0523			
ZZZZZ	1.00	0530			
E-S-09	1.00	0537	103.0	X	
E-S-09A	1.00	0544	~~9999.9~~	X	
E-S-12	1.00	0551	106.8	X	
E-S-12A	1.00	0559	~~9999.9~~	X	
CCV	1.00	0606		X	
CCB	1.00	0613		X	

PS
3/5/92

FORM XIV - IN 7/88

045: A11

30

Multi. File: [illegible] Analyst: [illegible]
Date: 02 25 92 Time: 22:58
Data File: 022592.DAT ID Set File: 045.ID4

Element File: PB_CLP3.ELL Element: Pb Wavelength: 283.3
Date: 02 25 92 Time: 22:59 Slit: 0.70
Data File: 022592.DAT ID Set File: 045.ID4 Lamp Current: [illegible]
Technique: HGA Calib. Type: Nonlinear Energy: 57
Remark 1: Analyst: JAS
Remark 2: Instrument: 21 Integration Time: 4.06 Background: [illegible]
Remark 3: ICP: ICP-4(1990) EPA-CLP TV = 92.4 Prep Date:
Remark 4: Standards and Blanks: Inorganic Ventures Prep Date:
Remark 5: Software Version 5.3 Loaded 07.30.90

2/25/92

Pb ID: Blank Seq. No.: 00192 A/S Pos.: 0 Date: 02/25/92

Replicate 1 Time: 22:42
Peak Area (A-s): 0.005 Peak Height (A): 0.017
Background Pk Area (A-s): 0.012 Background Pk Height (A): 0.012
Blank Corrected Pk Area (A-s): 0.005

Replicate 2 Time: 22:56
Peak Area (A-s): 0.003 Peak Height (A): 0.005
Background Pk Area (A-s): 0.014 Background Pk Height (A): 0.012
Blank Corrected Pk Area (A-s): 0.003

Mean Pk Area (A-s): 0.004 SD: 0.0014 RSD %: 39.69

Auto-zero performed.

Pb ID: Standard 1 Seq. No.: 00002 A/S Pos.: 4 Date: 02/25/92

Replicate 1 Time: 23:09
Peak Area (A-s): 0.020 Peak Height (A): 0.027
Background Pk Area (A-s): 0.012 Background Pk Height (A): 0.012
Blank Corrected Pk Area (A-s): 0.016

Replicate 2 Time: 23:22
Peak Area (A-s): 0.022 Peak Height (A): 0.041
Background Pk Area (A-s): 0.012 Background Pk Height (A): 0.013
Blank Corrected Pk Area (A-s): 0.018

Mean Pk Area (A-s): 0.017 SD: 0.0012 RSD (%): 6.78

Standard number 1 applied. [2.0]
Correlation coefficient: 1.0000 Slope: 0.0057

Pb ID: Standard 2 Seq. No.: 00003 A/S Pos.: 2 Date: 02/25/92

Replicate 1 Time: 23:37
Peak Area (A-s): 0.281 Peak Height (A): 0.524
Background Pk Area (A-s): 0.090 Background Pk Height (A): 0.157
Blank Corrected Pk Area (A-s): 0.277
Concentration (ug/L): 48.9

399

```
Replicate  2                        Time: 23:[illegible]
Peak Area (A-s): [illegible]        Peak Height (A): [illegible]
Background Pk Area (A-s): 0.0[illegible]    Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): [illegible]
Concentration (ug/L  ): 49.[illegible]

Mean Conc  (ug/L  ):        49.1        SD: [illegible]              RSD(%): [illegible]

Standard number 2 applied.  [50.0]
Correlation coefficient: 1.00000        Slope: 0.0057

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Pb    ID: Standard 3          Seq. No.: 00004    A/S Pos.: 1     Date: 02/25/92

Replicate  1                        Time: 23:24
Peak Area (A-s): 0.492              Peak Height (A): 0.880
Background Pk Area (A-s): 0.171     Background Pk Height (A): 0.321
Blank Corrected Pk Area (A-s): 0.494
Concentration (ug/L  ): 90.0

Replicate  2                        Time: 23:27
Peak Area (A-s): 0.505              Peak Height (A): 0.880
Background Pk Area (A-s): 0.170     Background Pk Height (A): 0.316
Blank Corrected Pk Area (A-s): 0.501
Concentration (ug/L  ): 91.4

Mean Conc  (ug/L  ):        90.7        SD: 1.00              RSD(%): 1.11

Standard number 3 applied.  [100.0]
Correlation coefficient: 1.00000        Slope: 0.0057

vvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvv

Pb    ID: Standard 4          Seq. No.: 00005    A/S Pos.: 1     Date: 02/25/92

Sample abs. exceeds the range of the calibration function.
Replicate  1                        Time: 23:31
Peak Area (A-s): 0.765              Peak Height (A): 1.121
Background Pk Area (A-s): 0.306     Background Pk Height (A): 0.355
Blank Corrected Pk Area (A-s): 0.763
Concentration (ug/L  ): ----------

Sample abs. exceeds the range of the calibration function.
Replicate  2                        Time: 23:34
Peak Area (A-s): 0.753              Peak Height (A): 1.125
Background Pk Area (A-s): 0.307     Background Pk Height (A): 0.350
Blank Corrected Pk Area (A-s): 0.759
Concentration (ug/L  ): ----------

Sample abs. exceeds the range of the calibration function.
Mean Conc  (ug/L  ): ----           SD: ----              RSD(%): ----

Standard number 4 applied.  [200.0]
Correlation coefficient: 0.99966        Slope: 0.0057

vvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvv

Pb    ID: ZEEMANICV           Seq. No.: 00006    A/S Pos.: 3     Date: 02/25/92

Replicate  1                        Time: 23:38
Peak Area (A-s): 0.496              Peak Height (A): 0.927
```

100=98.4

400

Background Pk Area (A-s): 0.1__ Background Pk Height (A): 0.0__
Blank Corrected Pk Area (A-s): 0.4__
Concentration (ug/L): 96.9

Replicate 2 Time: 23:41
Peak Area (A-s): 0.491 Peak Height (A): 0.821
Background Pk Area (A-s): 0.1__ Background Pk Height (A): 0.0__
Blank Corrected Pk Area (A-s): 0.4__
Concentration (ug/L): 95.2

Mean Conc (ug/L): 96.1 SD: 1.20 RSD(%): 1.25

Check sample is within range 98.6 - 1__.__

** ICB

Pb ID: CCB Seq. No.: 00007 A/S Pos.: 6 Date: 02/25/92

Replicate 1 Time: 23:45
Peak Area (A-s): 0.003 Peak Height (A): 0.007
Background Pk Area (A-s): 0.019 Background Pk Height (A): 0.015
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.1

Replicate 2 Time: 23:48
Peak Area (A-s): 0.004 Peak Height (A): 0.006
Background Pk Area (A-s): 0.015 Background Pk Height (A): 0.01_
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.0

Mean Conc (ug/L): -0.1 SD: 0.10 RSD(%): 171.01

Check sample is within range -3.0 - 3.0

** CRA

Pb ID: CRDL Seq. No.: 00008 A/S Pos.: 4 Date: 02/25/92

Replicate 1 Time: 23:52
Peak Area (A-s): 0.021 Peak Height (A): 0.041
Background Pk Area (A-s): 0.022 Background Pk Height (A): 0.017
Blank Corrected Pk Area (A-s): 0.018
Concentration (ug/L): 3.1

Replicate 2 Time: 23:55
Peak Area (A-s): 0.022 Peak Height (A): 0.040
Background Pk Area (A-s): 0.021 Background Pk Height (A): 0.014
Blank Corrected Pk Area (A-s): 0.019
Concentration (ug/L): 3.3

Mean Conc (ug/L): 3.2 SD: 0.14 RSD(%): 4.34

****

Pb ID: PREP BLANK1 Seq. No.: 00009 A/S Pos.: 5 Date: 02/25/92

Replicate 1 Time: 23:59
Peak Area (A-s): 0.011 Peak Height (A): 0.018
Background Pk Area (A-s): 0.015 Background Pk Height (A): 0.017
Blank Corrected Pk Area (A-s): 0.007
Concentration (ug/L): 1.2

Replicate 2 Time: [illegible]
Peak Area (A-s): [illegible] Peak Height (A): [illegible]
Background Pb Area (A-s): 0.017 Background Pb Height (A): [illegible]
Blank Corrected Pb Area (A-s): [illegible]
Concentration (ug/L): [illegible]

Mean Conc (ug/L): 1.2 SD: 0.07 RSD(%): 6.11

~~~~~~

Pb ID: REF BLANK A Seq. No.: [illegible] A/B Pos.: [illegible] Date: 02/[illegible]/92

Replicate 1 Time: 00:16
Peak Area (A-s): 0.172 Peak Height (A): 0.256
Background Pb Area (A-s): 0.046 Background Pb Height (A): 0.076
Blank Corrected Pb Area (A-s): 0.129
Concentration (ug/L): 20.2

Replicate 2 Time: 00:19
Peak Area (A-s): 0.173 Peak Height (A): 0.255
Background Pb Area (A-s): 0.045 Background Pb Height (A): 0.070
Blank Corrected Pb Area (A-s): 0.129
Concentration (ug/L): 20.9

Mean Conc (ug/L): 20.9 SD: 0.34 RSD (%): 0.57

Recovery is 168.7%

~~~~~~

Pb ID: ZEEMANLOSW Seq. No.: [illegible] A/B Pos.: [illegible] Date: 02/[illegible]/92

Replicate 1 Time: 00:12
Peak Area (A-s): 0.494 Peak Height (A): 0.830
Background Pb Area (A-s): 0.170 Background Pb Height (A): 0.291
Blank Corrected Pb Area (A-s): 0.491
Concentration (ug/L): 76.0

Replicate 2 Time: 00:17
Peak Area (A-s): 0.490 Peak Height (A): 0.835
Background Pb Area (A-s): 0.169 Background Pb Height (A): 0.292
Blank Corrected Pb Area (A-s): 0.486
Concentration (ug/L): 74.9

Mean Conc (ug/L): 75.4 SD: 0.74 RSD(%): 0.98

~~~~~~

Pb ID: ZEEMANLOSW A Seq. No.: [illegible] A/B Pos.: [illegible] Date: 02/26/92

Replicate 1 Time: 00:21
Peak Area (A-s): 0.360 Peak Height (A): 0.707
Background Pb Area (A-s): 0.191 Background Pb Height (A): [illegible]
Blank Corrected Pb Area (A-s): 0.556
Concentration (ug/L): 112.7

Replicate 2 Time: 00:24
Peak Area (A-s): 0.553 Peak Height (A): 0.903
Background Pb Area (A-s): 0.192 Background Pb Height (A): 0.774
Blank Corrected Pb Area (A-s): 0.555
Concentration (ug/L): 112.4
~~~~~~

Mean Conc (ug/L): 110.5 SD: 0.24 RSD(%): 0.21

Recovery is 55.2%

vvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvv

E-FB-01

P2 ID: 9209045-12 Seq. No.: 00013 A/S Pos.: 7 Date: 02/25/92

Replicate 1 Time: 00:28
Peak Area (A-s): 0.019 Peak Height (A): 0.017
Background Pk Area (A-s): 0.013 Background Pk Height (A): 0.012
Blank Corrected Pk Area (A-s): 0.006
Concentration (ug/L): 1.1

Replicate 2 Time: 00:32
Peak Area (A-s): 0.013 Peak Height (A): 0.017
Background Pk Area (A-s): 0.017 Background Pk Height (A): 0.014
Blank Corrected Pk Area (A-s): 0.006
Concentration (ug/L): 1.1

Mean Conc (ug/L): 1.1 SD: 0.02 RSD(%): 1.44

vvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvv

E-FB-01 A

P3 ID: 9209045-12 Seq. No.: 00014 A/S Pos.: 7 Date: 02/25/92

Replicate 1 Time: 00:35
Peak Area (A-s): 0.127 Peak Height (A): 0.238
Background Pk Area (A-s): 0.048 Background Pk Height (A): 0.069
Blank Corrected Pk Area (A-s): 0.124
Concentration (ug/L): 22.0

Replicate 2 Time: 00:39
Peak Area (A-s): 0.125 Peak Height (A): 0.237
Background Pk Area (A-s): 0.050 Background Pk Height (A): 0.071
Blank Corrected Pk Area (A-s): 0.121
Concentration (ug/L): 21.5

Mean Conc (ug/L): 21.8 SD: 0.34 RSD(%): 1.54

Recovery is 107.5%

vvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvv

~~E-FB~~ ew
CCV=98.4

P5 ID: ZEEMANCCV Seq. No.: 00015 A/S Pos.: 2 Date: 02/25/92

Replicate 1 Time: 00:42
Peak Area (A-s): 0.492 Peak Height (A): 0.509
Background Pk Area (A-s): 0.171 Background Pk Height (A): 0.280
Blank Corrected Pk Area (A-s): 0.493
Concentration (ug/L): 95.4

Replicate 2 Time: 00:46
Peak Area (A-s): 0.490 Peak Height (A): 0.515
Background Pk Area (A-s): 0.172 Background Pk Height (A): 0.284
Blank Corrected Pk Area (A-s): 0.490
Concentration (ug/L): 95.7

Mean Conc (ug/L): 95.6 SD: 0.25 RSD(%): 0.27

Check sample is within range 86.6 - 103.0

Pb ID: [illegible] Seq. No.: [illegible] A/S Pos.: [illegible] Date: 02-26-92

Replicate 1 Time: 00:59
Peak Area (A-s): 0.017 Peak Height (A): [illegible]
Background Pk Area (A-s): 0.022 Background Pk Height (A): 0.018
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.1

Replicate 2 Time: 09:50
Peak Area (A-s): 0.002 Peak Height (A): 0.007
Background Pk Area (A-s): 0.024 Background Pk Height (A): 0.019
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.2

Mean Conc (ug/L): -0.2 SD: [illegible] RSD(%): 75.70

Check sample is within range -3.0 - 3.0

~~~~~~

Pb ID: CRDL Seq. No.: 00017 A/S Pos.: 3 Date: 02/26/92

Replicate 1 Time: 00:57
Peak Area (A-s): 0.022 Peak Height (A): 0.029
Background Pk Area (A-s): 0.024 Background Pk Height (A): 0.016
Blank Corrected Pk Area (A-s): 0.019
Concentration (ug/L): 3.0

ICVF 2-26-92

Replicate 2 Time: 01:00
Peak Area (A-s): 0.021 Peak Height (A): 0.027
Background Pk Area (A-s): 0.024 Background Pk Height (A): 0.018
Blank Corrected Pk Area (A-s): 0.017
Concentration (ug/L): 3.0

Mean Conc (ug/L): 3.1 SD: 0.14 RSD %: 4.60

~~~~~~

Pb ID: 9200047-13 Seq. No.: 00018 A/S Pos.: 9 Date: 02/26/92 E-RB-01

Replicate 1 Time: 01:04
Peak Area (A-s): 0.017 Peak Height (A): 0.022
Background Pk Area (A-s): 0.022 Background Pk Height (A): 0.016
Blank Corrected Pk Area (A-s): 0.013
Concentration (ug/L): 2.2

Replicate 2 Time: 01:08
Peak Area (A-s): 0.018 Peak Height (A): 0.021
Background Pk Area (A-s): 0.024 Background Pk Height (A): 0.017
Blank Corrected Pk Area (A-s): 0.012
Concentration (ug/L): 2.1

Mean Conc (ug/L): 2.2 SD: 0.14 RSD(%): 6.50

~~~~~~

Pb ID: 9200047-13 Seq. No.: 00019 A/S Pos.: 9 Date: 02/26/92 E-RB-01A

Replicate 1 Time: 01:11
Peak Area (A-s): 0.176 Peak Height (A): 0.155
Background Pk Area (A-s): 0.049 Background Pk Height (A): 0.072
~~~~~~

Blank Corrected Pk Area (As) : 0.000
Concentration (ug/L) : 20.0

Replicate 2 Time: 01:15
Peak Area (As) : 0.104 Peak Height (A) : 0.087
Background Pk Area (Abs): 0.000 Background Pk Height (A) : 0.000
Blank Corrected Pk Area (As) : 0.101
Concentration (ug/L) : 20.2

Mean Conc (ug/L) : 20.4 SD: 0.15 RSD (%): 0.7%

Recovery is 102.0%

~~~~~~

Pb ID: PREP BLANK Seq. No.: 00020 A/S Pos.: 10 Date: 02/26/92

Replicate 1 Time: 01:17
Peak Area (As): 0.004 Peak Height (A) : 0.012
Background Pk Area (Abs): 0.013 Background Pk Height (A): 0.016
Blank Corrected Pk Area (As): 0.001
Concentration (ug/L) : 0.1

Replicate 2 Time: 01:22
Peak Area (As): 0.002 Peak Height (A): 0.018
Background Pk Area (Abs): 0.013 Background Pk Height (A): 0.016
Blank Corrected Pk Area (As): 0.001
Concentration (ug/L) : 0.1

Mean Conc (ug/L) : 0.1 SD: 0.01 RSD (%): 0.7%

~~~~~~

Pb ID: PREP BLANK A Seq. No.: 00021 A/S Pos.: 10 Date: 02/26/92

Replicate 1 Time: 01:26
Peak Area (As): 0.124 Peak Height (A): 0.072
Background Pk Area (Abs): 0.043 Background Pk Height (A): 0.060
Blank Corrected Pk Area (As): 0.121
Concentration (ug/L) : 21.8

Replicate 2 Time: 01:30
Peak Area (As): 0.126 Peak Height (A): 0.071
Background Pk Area (Abs): 0.048 Background Pk Height (A): 0.065
Blank Corrected Pk Area (As): 0.127
Concentration (ug/L) : 21.9

Mean Conc (ug/L) : 21.6 SD: 0.05 RSD (%): 0.2%

Recovery is 107.8%

~~~~~~

Pb ID: LCSS X20 Seq. No.: 00022 A/S Pos.: 11 Date: 02/26/92 1.00g

Replicate 1 Time: 01:37
Peak Area (As): 0.749 Peak Height (A): 0.549
Background Pk Area (Abs): 0.173 Background Pk Height (A): 0.173
Blank Corrected Pk Area (As): 0.715
Concentration (ug/L) : 35.1

Replicate 2 Time: 01:37
~~~~~~

Peak Area (A-s): 1.117 Peak Height (A): 0.576
Background Pk Area (A-s): 0.170 Background Pk Height (A): 0.174
Blank Corrected Pk Area (A-s): 1.117
Concentration (ug/L): 87.7

Mean Conc (ug/L): 87.7 SD: 1.09 RSD(%): 0.49

~~~~~~

Pb ID: LCS5 AX20 Seq. No.: 10027 A/S Pos.: 11 Date: 02/26/92

Replicate 1 Time: 01:41
Peak Area (A-s): 0.409 Peak Height (A): 0.636
Background Pk Area (A-s): 0.191 Background Pk Height (A): 0.219
Blank Corrected Pk Area (A-s): 0.446
Concentration (ug/L): 76.8

Replicate 2 Time: 01:44
Peak Area (A-s): 0.419 Peak Height (A): 0.651
Background Pk Area (A-s): 0.195 Background Pk Height (A): 0.217
Blank Corrected Pk Area (A-s): 0.456
Concentration (ug/L): 75.5

Mean Conc (ug/L): 76.2 SD: 0.00 RSD(%): 0.01

Recovery is 94.6%

~~~~~~

Pb ID: ZZZM4YCY Seq. No.: 10024 A/S Pos.: 3 Date: 02/26/92 CCV=98.4

Replicate 1 Time: 01:42
Peak Area (A-s): 0.495 Peak Height (A): 0.802
Background Pk Area (A-s): 0.169 Background Pk Height (A): 0.273
Blank Corrected Pk Area (A-s): 0.453
Concentration (ug/L): 97.7

Replicate 2 Time: 01:50
Peak Area (A-s): 0.491 Peak Height (A): 0.816
Background Pk Area (A-s): 0.172 Background Pk Height (A): 0.279
Blank Corrected Pk Area (A-s): 0.457
Concentration (ug/L): 98.2

Mean Conc (ug/L): 97.9 SD: 0.34 RSD(%): 1.33

Check sample is within range 93.6 - 103.2

~~~~~~

Pb ID: CCB Seq. No.: 10025 A/S Pos.: 0 Date: 02/26/92

Replicate 1 Time: 01:35
Peak Area (A-s): 0.004 Peak Height (A): 0.006
Background Pk Area (A-s): 0.102 Background Pk Height (A): 0.021
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.1

Replicate 2 Time: 01:37
Peak Area (A-s): 0.002 Peak Height (A): 0.006
Background Pk Area (A-s): 0.003 Background Pk Height (A): 0.022
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.2
~~~~~~

Mean Conc (ug/L): [illegible] SD: [illegible] RSD: [illegible]

Check sample is within range [illegible] - [illegible]

Pb ID: [illegible] Seq. No.: [illegible] A/B Pos.: [illegible] Date: [illegible]

Replicate 1 Time: [illegible]
Peak Area (A-s): [illegible] Peak Height (A): [illegible]
Background Pk Area (A-s): [illegible] Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): [illegible]
Concentration (ug/L): [illegible]

Replicate 2 Time: [illegible]
Peak Area (A-s): [illegible] Peak Height (A): [illegible]
Background Pk Area (A-s): [illegible] Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): [illegible]
Concentration (ug/L): [illegible]

Mean Conc (ug/L): [illegible] SD: [illegible] RSD(%): [illegible]

Pb ID: [illegible] Seq. No.: [illegible] A/B Pos.: [illegible] Date: [illegible]

Replicate 1 Time: [illegible]
Peak Area (A-s): [illegible] Peak Height (A): [illegible]
Background Pk Area (A-s): [illegible] Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): [illegible]
Concentration (ug/L): [illegible]

Replicate 2 Time: [illegible]
Peak Area (A-s): [illegible] Peak Height (A): [illegible]
Background Pk Area (A-s): [illegible] Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): [illegible]
Concentration (ug/L): [illegible]

Mean Conc (ug/L): [illegible] SD: [illegible] RSD(%): [illegible]

Pb ID: [illegible] Seq. No.: [illegible] A/B Pos.: [illegible] Date: [illegible]

Replicate 1 Time: [illegible]
Peak Area (A-s): [illegible] Peak Height (A): [illegible]
Background Pk Area (A-s): [illegible] Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): [illegible]
Concentration (ug/L): [illegible]

Replicate 2 Time: [illegible]
Peak Area (A-s): [illegible] Peak Height (A): [illegible]
Background Pk Area (A-s): [illegible] Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): [illegible]
Concentration (ug/L): [illegible]

Mean Conc (ug/L): [illegible] SD: [illegible] RSD(%): [illegible]

Recovery is [illegible]%

Pb ID: [illegible] Seq. No.: [illegible] A/B Pos.: [illegible] Date: [illegible]

E-S-01

1.18g

E-S-01A

E-S-02

4.16g

Replicate 1 Time: 02:24
Peak Area (A-s): 0.[illegible] Peak Height (A): 0.15[illegible]
Background Pk Area (A-s): 0.0[illegible] Background Pk Height (A): 0.045
Blank Corrected Pk Area (A-s): 0.079
Concentration (ug/L): 14.1

Replicate 2 Time: 02:32
Peak Area (A-s): 0.[illegible] Peak Height (A): 0.155
Background Pk Area (A-s): 0.051 Background Pk Height (A): 0.047
Blank Corrected Pk Area (A-s): 0.077
Concentration (ug/L): 13.7

Mean Conc (ug/L): 13.9 SD: 0.28 RSD(%): 2.02

~~~~~~

Pb ID: 9200045-02 Seq. No.: 00020 A/S Pos.: 14 Date: 02/26/92 E-S-02A

Replicate 1 Time: 02:51
Peak Area (A-s): 0.191 Peak Height (A): 0.334
Background Pk Area (A-s): 0.026 Background Pk Height (A): 0.1[illegible]
Blank Corrected Pk Area (A-s): 0.167
Concentration (ug/L): 33.6

Replicate 2 Time: 02:59
Peak Area (A-s): 0.190 Peak Height (A): 0.346
Background Pk Area (A-s): 0.077 Background Pk Height (A): 0.100
Blank Corrected Pk Area (A-s): 0.126
Concentration (ug/L): 33.5

Mean Conc (ug/L): 33.5 SD: 0.05 RSD(%): 0.14

Recovery is 98.4%

~~~~~~

Pb ID: 9200045-03 Seq. No.: 00021 A/S Pos.: 15 Date: 02/26/92 E-S-03 1.14g

Replicate 1 Time: 02:39
Peak Area (A-s): 0.094 Peak Height (A): 0.174
Background Pk Area (A-s): 0.060 Background Pk Height (A): 0.054
Blank Corrected Pk Area (A-s): 0.091
Concentration (ug/L): 16.0

Replicate 2 Time: 02:47
Peak Area (A-s): 0.097 Peak Height (A): 0.184
Background Pk Area (A-s): 0.061 Background Pk Height (A): 0.056
Blank Corrected Pk Area (A-s): 0.093
Concentration (ug/L): 16.5

Mean Conc (ug/L): 16.3 SD: 0.33 RSD(%): 2.04

~~~~~~

Pb ID: 9200045-03 Seq. No.: 00022 A/S Pos.: 15 Date: 02/26/92 E-S-03A

Replicate 1 Time: 02:46
Peak Area (A-s): 0.209 Peak Height (A): 0.325
Background Pk Area (A-s): 0.036 Background Pk Height (A): 0.117
Blank Corrected Pk Area (A-s): 0.205
Concentration (ug/L): 37.0
~~~~~~

Replicate 1 Time: 12:32
Peak Area (A-s): 0.219 Peak Height (A): 0.334
Background Pk Area (A-s): 0.083 Background Pk Height (A): 0.114
Blank Corrected Pk Area (A-s): 0.136
Concentration (ug/L): 30.2

Mean Conc (ug/L): 30.9 SD: 0.15 RSD (%): 0.4

Recovery is 102.7%

CCV= 98.4

Pb ID: ISEMPAID Seq. No.: 00077 A/S Pos.: 3 Date: 02/26/92

Replicate 1 Time: 12:37
Peak Area (A-s): 0.355 Peak Height (A): 0.808
Background Pk Area (A-s): 0.174 Background Pk Height (A): 0.282
Blank Corrected Pk Area (A-s): 0.495
Concentration (ug/L): 74.3

Replicate 2 Time: 12:37
Peak Area (A-s): 0.492 Peak Height (A): 0.814
Background Pk Area (A-s): 0.174 Background Pk Height (A): 0.284
Blank Corrected Pk Area (A-s): 0.488
Concentration (ug/L): 95.4

Mean Conc (ug/L): 95.3 SD: 0.59 RSD(%): 0.62

Check sample is within range 38.6 - 103.2

Pb ID: CCB Seq. No.: 00074 A/S Pos.: 0 Date: 02/26/92

Replicate 1 Time: 07:01
Peak Area (A-s): 0.003 Peak Height (A): 0.008
Background Pk Area (A-s): 0.024 Background Pk Height (A): 0.021
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.1

Replicate 2 Time: 07:04
Peak Area (A-s): 0.004 Peak Height (A): 0.008
Background Pk Area (A-s): 0.026 Background Pk Height (A): 0.021
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.0

Mean Conc (ug/L): -0.1 SD: 0.09 RSD(%): 116.43

Check sample is within range -3.0 - 2.0

Pb ID: IPBL Seq. No.: 00075 A/S Pos.: 16 Date: 02/26/92

Replicate 1 Time: 07:08
Peak Area (A-s): 0.022 Peak Height (A): 0.041
Background Pk Area (A-s): 0.027 Background Pk Height (A): 0.022
Blank Corrected Pk Area (A-s): 0.018
Concentration (ug/L): 2.2

ICW

Replicate 2 Time: 07:11
Peak Area (A-s): 0.021 Peak Height (A): 0.040

400

Background Pb Area (A-s): 0.003 Background Pb Height (A): 0.002
Blank Corrected Pb Area (A-s): 0.017
Concentration (ug/L): 0.9

Mean Conc (ug/L): 2.1 SD: 0.12 RSD (%): 5.77

~~~~~~

E-S-04
1.00g

Pb ID: 9210045-04 Seq. No.: 30026 A/S Pos.: 17 Date: 02/26/92

Replicate 1 Time: 07:15
Peak Area (A-s): 0.127 Peak Height (A): 0.246
Background Pb Area (A-s): 0.071 Background Pb Height (A): 0.073
Blank Corrected Pb Area (A-s): 0.122
Concentration (ug/L): 21.9

Replicate 2 Time: 07:19
Peak Area (A-s): 0.104 Peak Height (A): 0.194
Background Pb Area (A-s): 0.065 Background Pb Height (A): 0.062
Blank Corrected Pb Area (A-s): 0.100
Concentration (ug/L): 17.7

Mean Conc (ug/L): 19.8 SD: 2.94 RSD(%): 14.87

~~~~~~

E-S-04A

Pb ID: 9210045-04 Seq. No.: 30027 A/S Pos.: 17 Date: 02/26/92

Replicate 1 Time: 07:22
Peak Area (A-s): 0.211 Peak Height (A): 0.379
Background Pb Area (A-s): 0.086 Background Pb Height (A): 0.113
Blank Corrected Pb Area (A-s): 0.208
Concentration (ug/L): 37.4

Replicate 2 Time: 07:26
Peak Area (A-s): 0.210 Peak Height (A): 0.375
Background Pb Area (A-s): 0.085 Background Pb Height (A): 0.113
Blank Corrected Pb Area (A-s): 0.209
Concentration (ug/L): 37.7

Mean Conc (ug/L): 37.6 SD: 0.17 RSD(%): 0.51

Recovery is 89.1%

~~~~~~

E-S-05
1.21g

Pb ID: 9210045-05 Seq. No.: 30028 A/S Pos.: 18 Date: 02/26/92

Replicate 1 Time: 07:29
Peak Area (A-s): 0.125 Peak Height (A): 0.227
Background Pb Area (A-s): 0.074 Background Pb Height (A): 0.071
Blank Corrected Pb Area (A-s): 0.121
Concentration (ug/L): 21.5

Replicate 2 Time: 07:33
Peak Area (A-s): 0.124 Peak Height (A): 0.223
Background Pb Area (A-s): 0.074 Background Pb Height (A): 0.071
Blank Corrected Pb Area (A-s): 0.120
Concentration (ug/L): 21.3

Mean Conc (ug/L): 21.4 SD: 0.17 RSD (%): 0.80
~~~~~~

Pb ID: 920604F- 5 Seq. No.: 00039 A/S Pos.: 18 Date: 02 26/92 E-S-05A

Replicate 1 Time: 07:36
Peak Area (A-s): 0.120 Peak Height (A): 0.444
Background Pk Area (A-s): 0.101 Background Pk Height (A): 0.154
Blank Corrected Pk Area (A-s): 0.020
Concentration (ug/L): 42.1

Replicate 2 Time: 07:40
Peak Area (A-s): 0.241 Peak Height (A): 0.445
Background Pk Area (A-s): 0.098 Background Pk Height (A): 0.172
Blank Corrected Pk Area (A-s): 0.207
Concentration (ug/L): 43.9

Mean Conc (ug/L): 42.6 SD: 0.68 RSD(%): 1.51

Recovery is 105.6%

Pb ID: 920604F-06 Seq. No.: 00040 A/S Pos.: 19 Date: 02/26/92 E-S-06
1.359

Replicate 1 Time: 07:43
Peak Area (A-s): 0.110 Peak Height (A): 0.209
Background Pk Area (A-s): 0.105 Background Pk Height (A): 0.072
Blank Corrected Pk Area (A-s): 0.010
Concentration (ug/L): 20.0

Replicate 2 Time: 07:47
Peak Area (A-s): 0.117 Peak Height (A): 0.213
Background Pk Area (A-s): 0.112 Background Pk Height (A): 0.074
Blank Corrected Pk Area (A-s): 0.010
Concentration (ug/L): 20.1

Mean Conc (ug/L): 20.0 SD: 0.09 RSD(%): 0.45

Pb ID: 920604F-06 Seq. No.: 00041 A/S Pos.: 19 Date: 02/26/92 E-S-06A

Replicate 1 Time: 07:50
Peak Area (A-s): 0.226 Peak Height (A): 0.392
Background Pk Area (A-s): 0.177 Background Pk Height (A): 0.170
Blank Corrected Pk Area (A-s): 0.222
Concentration (ug/L): 40.1

Replicate 2 Time: 07:54
Peak Area (A-s): 0.224 Peak Height (A): 0.399
Background Pk Area (A-s): 0.126 Background Pk Height (A): 0.139
Blank Corrected Pk Area (A-s): 0.221
Concentration (ug/L): 39.9

Mean Conc (ug/L): 40.0 SD: 0.17 RSD(%): 0.44

Recovery is 99.7%

Pb ID: IEEMA107 Seq. No.: 00042 A/S Pos.: 7 Date: 02/26/92 CW=98.4

Replicate 1 Time: 07:57

Peak Area (A-s): 0.488 Peak Height (A): 0.814
Background Pb Area (A-s): 0.179 Background Pb Height (A): 0.133
Blank Corrected Pb Area (A-s): 0.488
Concentration (ug/L): 87.1

Replicate 2 Time: 04:01
Peak Area (A-s): 0.457 Peak Height (A): 0.799
Background Pb Area (A-s): 0.175 Background Pb Height (A): 0.128
Blank Corrected Pb Area (A-s): 0.499
Concentration (ug/L): 95.6

Mean Conc (ug/L): 86.3 SD: 1.69 RSD(%): 1.14

Check sample is within range 83.6 - 109.2

~~~~~~

Pb ID: CCB Seq. No.: 00047 A/B Pos.: 9 Date: 12/20/92

Replicate 1 Time: 04:05
Peak Area (A-s): 0.004 Peak Height (A): 0.007
Background Pb Area (A-s): 0.026 Background Pb Height (A): 0.021
Blank Corrected Pb Area (A-s): -0.006
Concentration (ug/L): -0.1

Replicate 2 Time: 04:08
Peak Area (A-s): 0.007 Peak Height (A): 0.007
Background Pb Area (A-s): 0.027 Background Pb Height (A): 0.022
Blank Corrected Pb Area (A-s): -0.001
Concentration (ug/L): -0.2

Mean Conc (ug/L): -0.1 SD: 0.14 RSD(%): 140.17

Check sample is within range -2.0 - 2.0

~~~~~~

Pb ID: CPDL Seq. No.: 00044 A/B Pos.: 21 Date: 12/20/92

Replicate 1 Time: 04:12
Peak Area (A-s): 0.021 Peak Height (A): 0.029
Background Pb Area (A-s): 0.028 Background Pb Height (A): 0.024
Blank Corrected Pb Area (A-s): 0.013
Concentration (ug/L): 2.1

Replicate 2 Time: 04:15
Peak Area (A-s): 0.022 Peak Height (A): 0.028
Background Pb Area (A-s): 0.029 Background Pb Height (A): 0.021
Blank Corrected Pb Area (A-s): 0.013
Concentration (ug/L): 2.2

Mean Conc (ug/L): 2.2 SD: 0.07 RSD(%): 2.16

~~~~~~

Pb ID: CPDL Seq. No.: 00045 A/B Pos.: 29 Date: 12/20/92

Replicate 1 Time: 04:19
Peak Area (A-s): 0.140 Peak Height (A): 0.255
Background Pb Area (A-s): 0.036 Background Pb Height (A): 0.075
Blank Corrected Pb Area (A-s): 0.126
Concentration (ug/L): 24.2
~~~~~~

Replicate 2 Time: 04:27
Peak Area (A-s): 0.142 Peak Height (A): 0.127
Background Pk Area (A-s): 0.135 Background Pk Height (A): 0.074
Blank Corrected Pk Area (A-s): 0.008
Concentration (ug/L): [illegible]

Mean Conc (ug/L): 24.4 SD: 1.77 RSD(%): 1.77

Recovery is 102.4%

~~~~~~

Pb ID: R000345-07 Seq. No.: 00148 A/S Pos.: 21 Date: 02/26/92

E-S-07
1.08g

Replicate 1 Time: 04:25
Peak Area (A-s): 0.067 Peak Height (A): 0.122
Background Pk Area (A-s): 0.047 Background Pk Height (A): 0.036
Blank Corrected Pk Area (A-s): 0.067
Concentration (ug/L): 11.1

Replicate 2 Time: 04:29
Peak Area (A-s): 0.066 Peak Height (A): 0.121
Background Pk Area (A-s): 0.047 Background Pk Height (A): 0.035
Blank Corrected Pk Area (A-s): 0.062
Concentration (ug/L): 10.9

Mean Conc (ug/L): 11.0 SD: 0.11 RSD(%): 0.99

~~~~~~

Pb ID: R000345-07 Seq. No.: 00147 A/S Pos.: 21 Date: 02/26/92

E-S-07A

Replicate 1 Time: 04:33
Peak Area (A-s): 0.181 Peak Height (A): 0.224
Background Pk Area (A-s): 0.074 Background Pk Height (A): 0.097
Blank Corrected Pk Area (A-s): 0.177
Concentration (ug/L): 31.3

Replicate 2 Time: 04:36
Peak Area (A-s): 0.199 Peak Height (A): 0.225
Background Pk Area (A-s): 0.072 Background Pk Height (A): 0.095
Blank Corrected Pk Area (A-s): 0.177
Concentration (ug/L): 31.7

Mean Conc (ug/L): 31.5 SD: 0.09 RSD(%): 0.28

Recovery is 107.7%

~~~~~~

Pb ID: R000345-08 Seq. No.: 00149 A/S Pos.: 22 Date: 02/26/92

E-S-07-D
1.18g

Replicate 1 Time: 04:40
Peak Area (A-s): 0.065 Peak Height (A): 0.106
Background Pk Area (A-s): 0.056 Background Pk Height (A): 0.093
Blank Corrected Pk Area (A-s): 0.061
Concentration (ug/L): 10.8

Replicate 2 Time: 04:47
Peak Area (A-s): 0.067 Peak Height (A): 0.123
Background Pk Area (A-s): 0.058 Background Pk Height (A): 0.091
Blank Corrected Pk Area (A-s): 0.064
~~~~~~

Concentration (ug/L): 10.2

Mean Conc (ug/L): 11.0 SD: 0.25 RSD(%): 2.61

E-S-07DA

Pb ID: 920045-02 Seq. No.: 10049 A/S Pos.: 22 Date: 02/26/92

Replicate 1 Time: 04:47
Peak Area (A-s): 0.179 Peak Height (A): 0.327
Background Pk Area (A-s): 0.079 Background Pk Height (A): 0.075
Blank Corrected Pk Area (A-s): 0.175
Concentration (ug/L): 11.4

Replicate 2 Time: 04:50
Peak Area (A-s): 0.172 Peak Height (A): 0.311
Background Pk Area (A-s): 0.078 Background Pk Height (A): 0.071
Blank Corrected Pk Area (A-s): 0.169
Concentration (ug/L): 10.2

Mean Conc (ug/L): 10.8 SD: 0.84 RSD(%): 7.74

Recovery is 99.0%

E-S-08
1.059

Pb ID: 920045-09 Seq. No.: 10159 A/S Pos.: 22 Date: 02/26/92

Replicate 1 Time: 04:54
Peak Area (A-s): 0.095 Peak Height (A): 0.168
Background Pk Area (A-s): 0.057 Background Pk Height (A): 0.057
Blank Corrected Pk Area (A-s): 0.095
Concentration (ug/L): 15.1

Replicate 2 Time: 04:57
Peak Area (A-s): 0.091 Peak Height (A): 0.174
Background Pk Area (A-s): 0.055 Background Pk Height (A): 0.052
Blank Corrected Pk Area (A-s): 0.097
Concentration (ug/L): 15.3

Mean Conc (ug/L): 15.2 SD: 0.26 RSD(%): 1.72

E-S-08A

Pb ID: 920045-10 Seq. No.: 10051 A/S Pos.: 22 Date: 02/26/92

Replicate 1 Time: 05:01
Peak Area (A-s): 0.206 Peak Height (A): 0.376
Background Pk Area (A-s): 0.089 Background Pk Height (A): 0.111
Blank Corrected Pk Area (A-s): 0.202
Concentration (ug/L): 76.5

Replicate 2 Time: 05:05
Peak Area (A-s): 0.203 Peak Height (A): 0.373
Background Pk Area (A-s): 0.027 Background Pk Height (A): 0.111
Blank Corrected Pk Area (A-s): 0.199
Concentration (ug/L): 75.8

Mean Conc (ug/L): 76.1 SD: 0.47 RSD(%): 1.24

Recovery is 104.2%

CCV=98.4

Pb ID: [illegible] Seq. No.: [illegible] A/S Pos.: [illegible] Date: [illegible]

Replicate 1 Time: [illegible]
Peak Area (A-s): [illegible] Peak Height (A): [illegible]
Background Pk Area (A-s): [illegible] Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): [illegible]
Concentration (ug/L): [illegible]

Replicate 2 Time: [illegible]
Peak Area (A-s): [illegible] Peak Height (A): [illegible]
Background Pk Area (A-s): [illegible] Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): [illegible]
Concentration (ug/L): [illegible]

Mean Conc (ug/L): [illegible] SD: [illegible] RSD(%): [illegible]

Check sample is within range [illegible] - [illegible]

Pb ID: [illegible] Seq. No.: [illegible] A/S Pos.: [illegible] Date: [illegible]

Replicate 1 Time: [illegible]
Peak Area (A-s): [illegible] Peak Height (A): [illegible]
Background Pk Area (A-s): [illegible] Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): [illegible]
Concentration (ug/L): [illegible]

Replicate 2 Time: [illegible]
Peak Area (A-s): [illegible] Peak Height (A): [illegible]
Background Pk Area (A-s): [illegible] Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): [illegible]
Concentration (ug/L): [illegible]

Mean Conc (ug/L): [illegible] SD: [illegible] RSD(%): [illegible]

Check sample is within range [illegible] - [illegible]

Pb ID: [illegible] Seq. No.: [illegible] A/S Pos.: [illegible] Date: [illegible]

Replicate 1 Time: [illegible]
Peak Area (A-s): [illegible] Peak Height (A): [illegible]
Background Pk Area (A-s): [illegible] Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): [illegible]
Concentration (ug/L): [illegible]

Replicate 2 Time: [illegible]
Peak Area (A-s): [illegible] Peak Height (A): [illegible]
Background Pk Area (A-s): [illegible] Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): [illegible]
Concentration (ug/L): [illegible]

Mean Conc (ug/L): [illegible] SD: [illegible] RSD(%): [illegible]

Pb ID: [illegible] Seq. No.: [illegible] A/S Pos.: [illegible] Date: [illegible]

Replicate 1 Time: [illegible]

Peak Area (A-s): [illegible]   Peak Height (A): [illegible]
Background Pk Area (A-s): [illegible]   Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): [illegible]
Concentration (ug/L): 24.9

Replicate 2   Time: [illegible]
Peak Area (A-s): 0.1[illegible]   Peak Height (A): [illegible]
Background Pk Area (A-s): 0.05[illegible]   Background Pk Height (A): 0.07[illegible]
Blank Corrected Pk Area (A-s): 0.1[illegible]
Concentration (ug/L): 24.9

Mean Conc (ug/L): 24.9   SD: 0.0[illegible]   RSD(%): 0.0[illegible]

Recovery is 1[illegible]%

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Pb   ID: 9200045-10   Seq. No.: 00056   A/S Pos.: 25   Date: 02/26/92

1.02g

Replicate 1   Time: 05:37
Peak Area (A-s): 0.086   Peak Height (A): 0.151
Background Pk Area (A-s): 0.053   Background Pk Height (A): 0.050
Blank Corrected Pk Area (A-s): 0.082
Concentration (ug/L): 14.5

Replicate 2   Time: 05:41
Peak Area (A-s): 0.084   Peak Height (A): 0.156
Background Pk Area (A-s): 0.064   Background Pk Height (A): 0.049
Blank Corrected Pk Area (A-s): 0.080
Concentration (ug/L): 14.2

Mean Conc (ug/L): 14.4   SD: 0.22   RSD(%): 1.52

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Pb   ID: 9200045-10   Seq. No.: 00057   A/S Pos.: 25   Date: 02/26/92

Replicate 1   Time: 05:44
Peak Area (A-s): 0.198   Peak Height (A): 0.364
Background Pk Area (A-s): 0.059   Background Pk Height (A): 0.112
Blank Corrected Pk Area (A-s): 0.194
Concentration (ug/L): 34.9

Replicate 2   Time: 05:48
Peak Area (A-s): 0.199   Peak Height (A): 0.345
Background Pk Area (A-s): 0.029   Background Pk Height (A): 0.105
Blank Corrected Pk Area (A-s): 0.195
Concentration (ug/L): 35.0

Mean Conc (ug/L): 35.0   SD: 0.08   RSD(%): 0.22

Recovery is 102.9%

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Pb   ID: 9200045-11   Seq. No.: 00058   A/S Pos.: 26   Date: 02/26/92

1.21g

Replicate 1   Time: 05:51
Peak Area (A-s): 0.061   Peak Height (A): 0.114
Background Pk Area (A-s): 0.043   Background Pk Height (A): 0.036
Blank Corrected Pk Area (A-s): 0.057
Concentration (ug/L): 10.0
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Replicate 2 Time: 08:55
Peak Area (A-s): 0.152 Peak Height (A): 0.117
Background Pb Area (A-s): 0.153 Background Pb Height (A): 0.122
Blank Corrected Pb Area (A-s): [illegible]
Concentration (ug/L): 10.2

Mean Conc (ug/L): 10.2 SD: 0.31 RSD(%): 3.05

Pb ID: 921X145-11 Seq. No.: 00037 A/B Pos.: 26 Date: 02/26 92

E-512A

Replicate 1 Time: 05:57
Peak Area (A-s): 0.180 Peak Height (A): 0.132
Background Pb Area (A-s): 0.175 Background Pb Height (A): 0.125
Blank Corrected Pb Area (A-s): 0.176
Concentration (ug/L): 31.6

Replicate 2 Time: 06:02
Peak Area (A-s): 0.179 Peak Height (A): 0.123
Background Pb Area (A-s): 0.177 Background Pb Height (A): 0.121
Blank Corrected Pb Area (A-s): 0.175
Concentration (ug/L): 31.4

Mean Conc (ug/L): 31.5 SD: 0.17 RSD(%): 0.53

Recovery is 106.1%

Pb ID: ZEEMANICV Seq. No.: 00063 A/B Pos.: 3 Date: 02/26/92

CCV=98.4

Replicate 1 Time: 06:06
Peak Area (A-s): 0.491 Peak Height (A): 0.301
Background Pb Area (A-s): 0.132 Background Pb Height (A): 0.187
Blank Corrected Pb Area (A-s): 0.488
Concentration (ug/L): 95.3

Replicate 2 Time: 06:10
Peak Area (A-s): 0.491 Peak Height (A): 0.314
Background Pb Area (A-s): 0.133 Background Pb Height (A): 0.195
Blank Corrected Pb Area (A-s): 0.488
Concentration (ug/L): 95.3

Mean Conc (ug/L): 95.3 SD: 0.00 RSD(%): 0.00

Check sample is within range 88.5 - 108.2

Pb ID: CCB Seq. No.: 00061 A/B Pos.: 0 Date: 02/26/92

Replicate 1 Time: 06:13
Peak Area (A-s): 0.012 Peak Height (A): 0.006
Background Pb Area (A-s): 0.013 Background Pb Height (A): 0.024
Blank Corrected Pb Area (A-s): -0.001
Concentration (ug/L): -0.1

Replicate 2 Time: 06:17
Peak Area (A-s): 0.004 Peak Height (A): 0.007
Background Pb Area (A-s): 0.013 Background Pb Height (A): 0.023
Blank Corrected Pb Area (A-s): -0.009

Concentration (µg/L) [illegible]

Mean Conc (µg/L) [illegible] SD: [illegible] RSD(%): [illegible]

Check sample is within range -3.0 - 3.0

Date: Feb 10, 1992

CEIMIC Corporation
METAL PREP LOGBOOK

Analyst: [illegible]

CEIMIC ID	CLIENT ID	PREP LCS ID	TYPE	pH	SPL WGT/VOL	SPIKE ID	FINAL VOL	COLOR BEF/AFT	CLARITY BEF/AFT	TEXTURE BEF/AFT	ARTIFACTS Y/N	COMMENTS
Z0210PBW	✓		Z		100		100					
Z0210LCSW	✓				100		100					
045-12	✓			<2	50ml		50ml	colorless	clear			Samples
-13	✓			"	50		50					Empty
Z0210PBS	✓						200					
Z0210LCSS	✓				1.00g			brown				
045-01				NA	1.18					fine		
-02					1.16							
-03					1.14							
-04					1.00							
-05					1.21							
-06					1.35							
-07					1.08							
-08					1.18							
-09					1.05							
-10					1.02							
-11					1.21							

Color = red, blue, yellow, green, orange, violet, white, brown, grey, black, colorless
Clarity = clear, cloudy, opaque
Texture = fine (powdery), medium (sand), coarse (large crystals or rocks)
Comments = artifacts and changes (ex. emulsion formation)
* LCS ID includes volume taken, ICV#, and Ceimic ID (ex. 1891121B)

*PREP TYPE: ICAP(I) digestion or Zeeman(Z) digestion
*pH: less than or greater than 2 for waters
*SPIKE ID: includes volume taken and Ceimic ID
*SPIKE WITNESS:

CEIMIC CORPORATION
INORGANIC LABORATORY
%Solids Determination

Date	Time in	Time out	Ceimic ID	Batch #	Tare wt	Gross wet	Net wet	Gross dry	Net dry	%Solids	Int
2/10'	912		045	01	1.54		11.70	12.014	10.474	89.5	
				02			10.24	10.543	9.003	87.9	
				03			10.997	11.094	9.554	86.9	
				04			6.99	7.790	6.250	89.4	
				05			8.10	8.613	7.073	87.3	
				06			9.01	9.339	7.779	86.6	
				07			11.28	12.389	16.849	96.2	
				08			9.85	10.977	9.387	95.3	
				09			10.73	10.907	9.367	87.3	
				10			12.64	12.533	10.993	87.0	
				11			12.71	13.566	12.076	94.6	

%Solids = Net Dry / Net Wet X 100 Time = 12-24hrs

420

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